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THURSDAY, AUGUST 17, 1961

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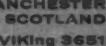
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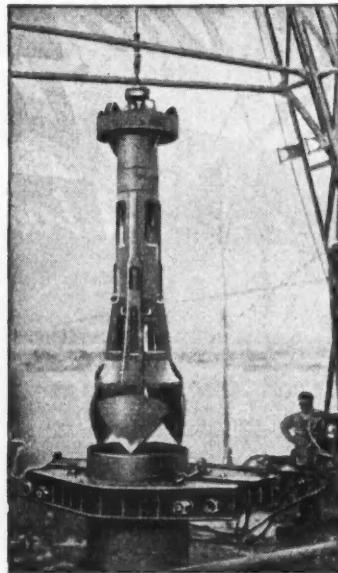
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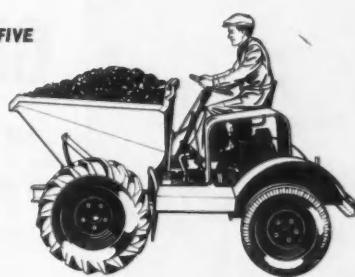
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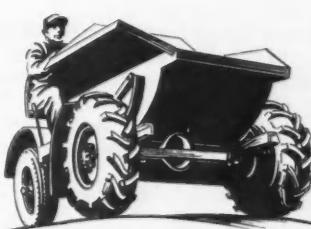
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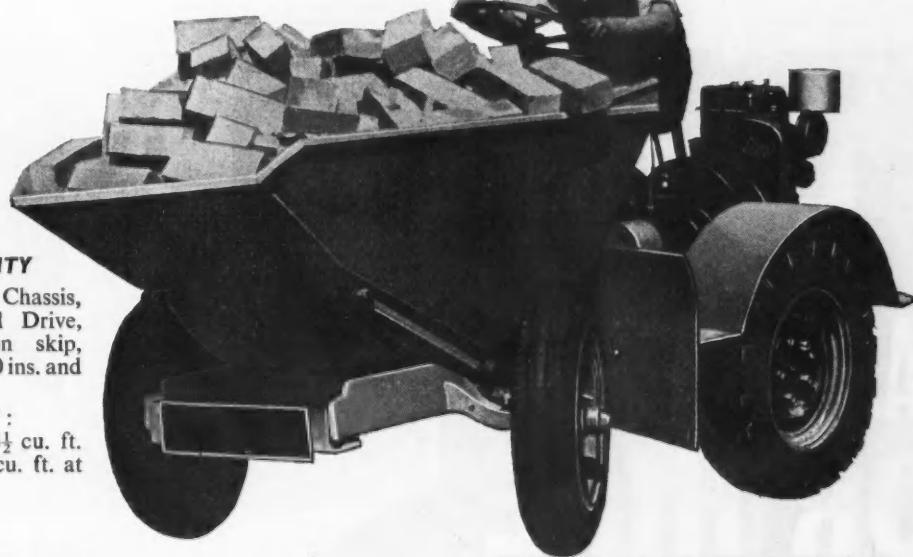


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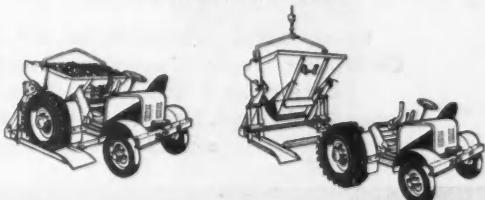
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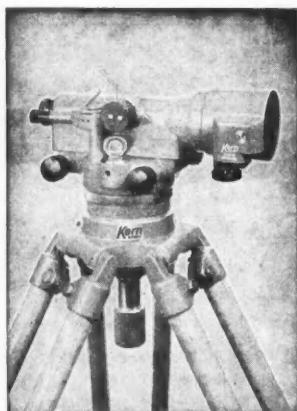
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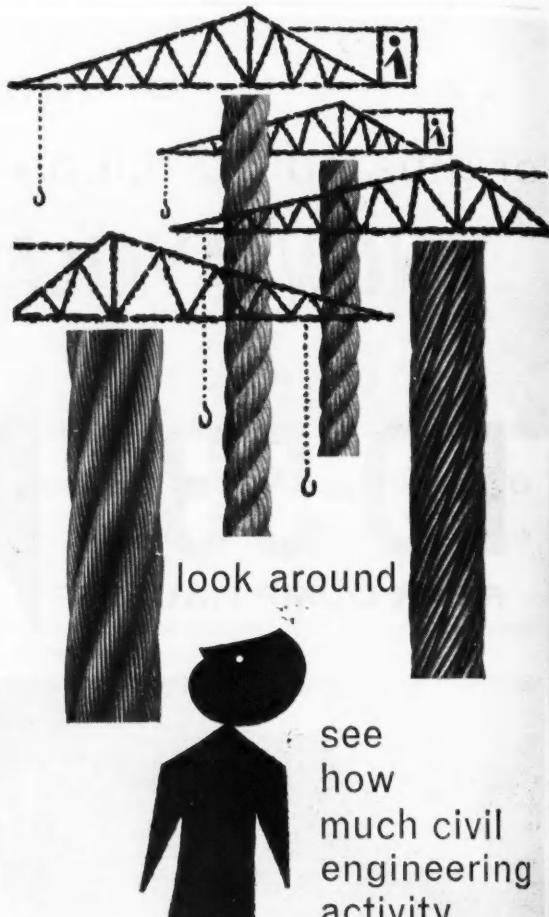
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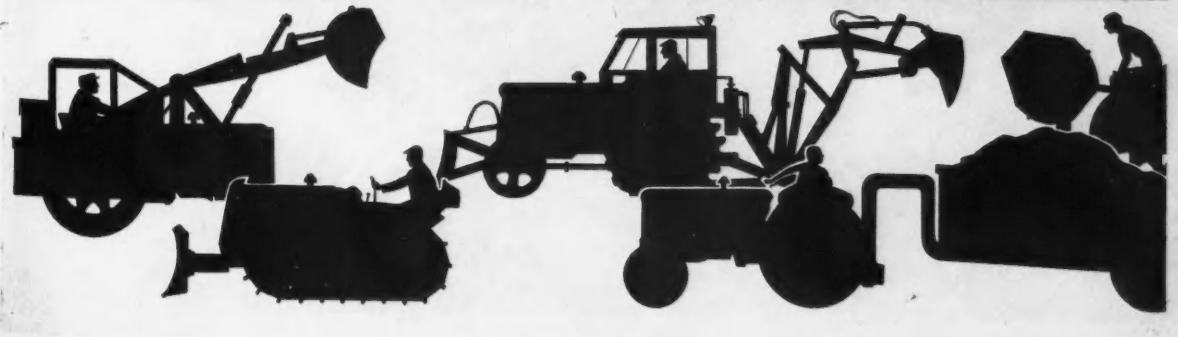
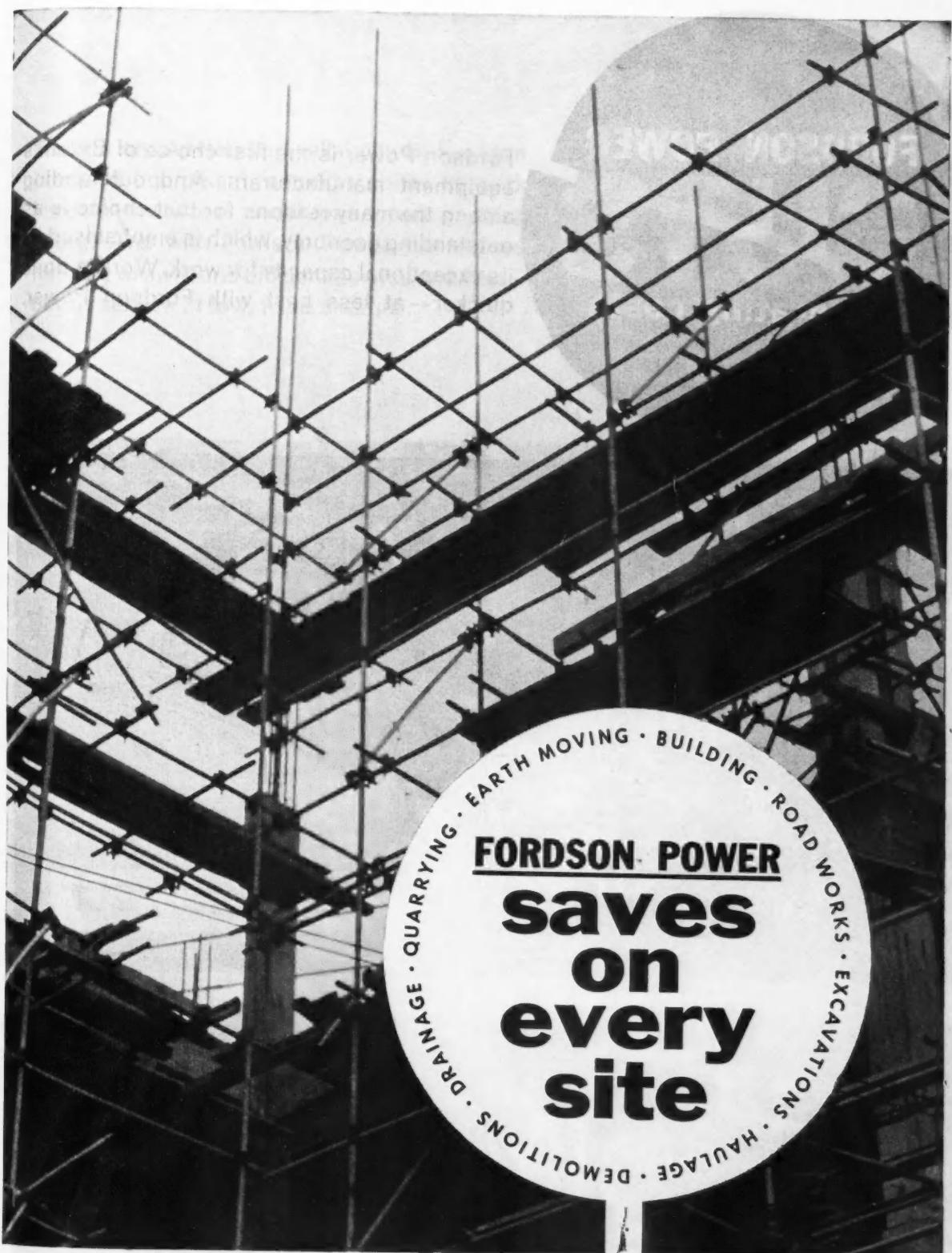
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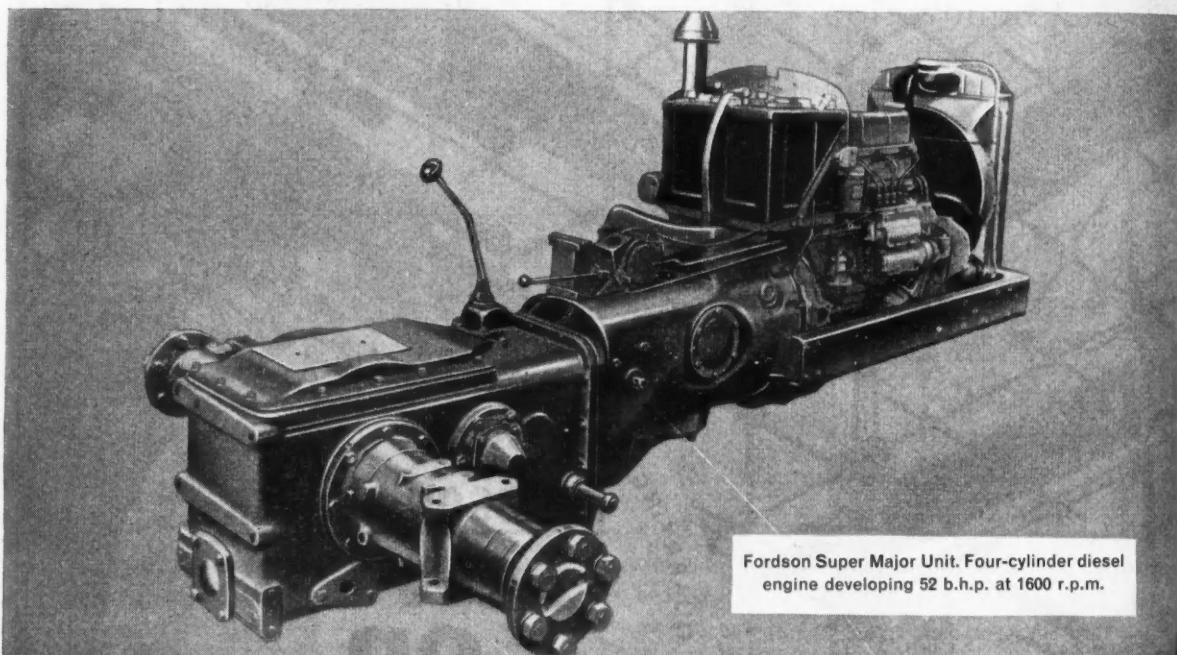
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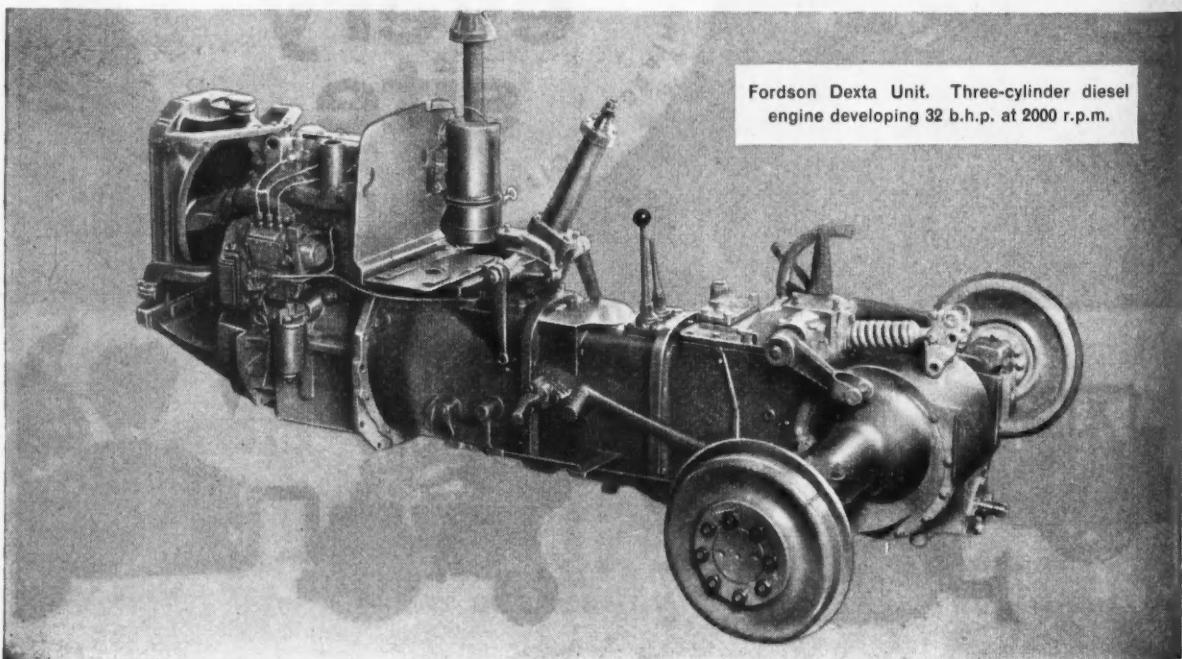




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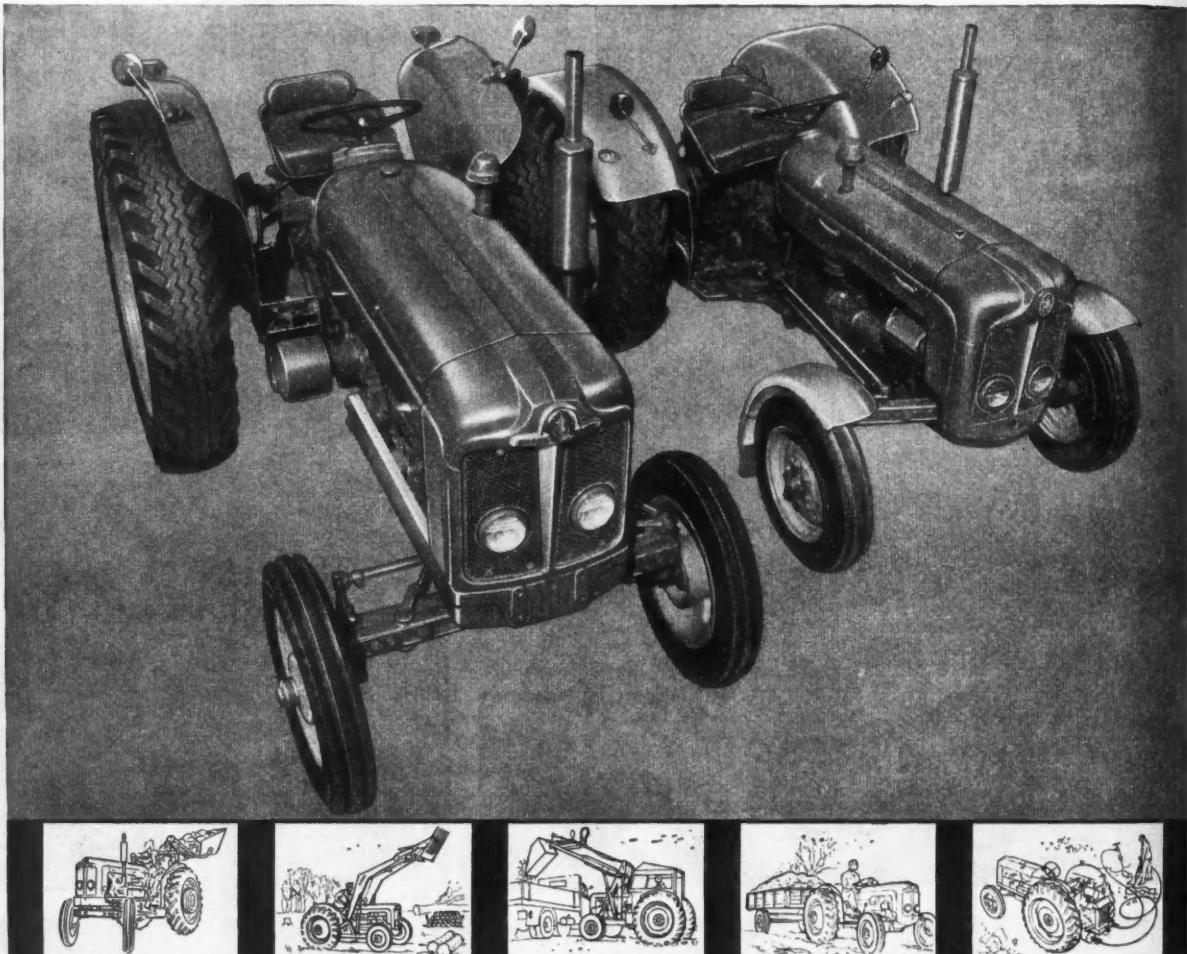
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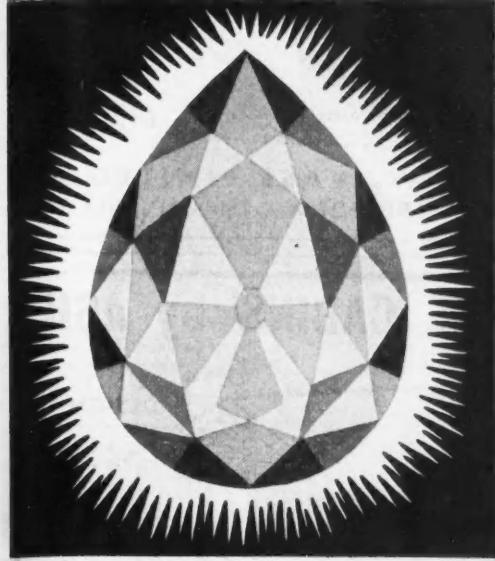
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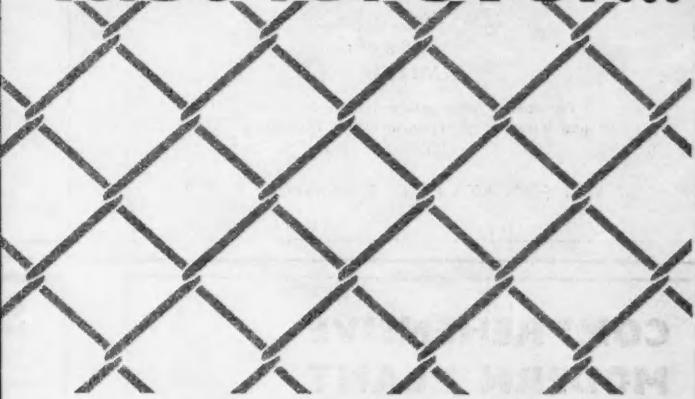


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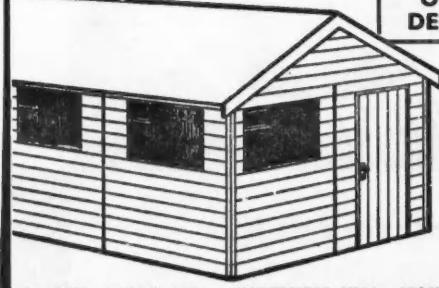
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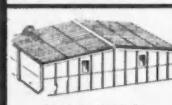
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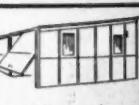
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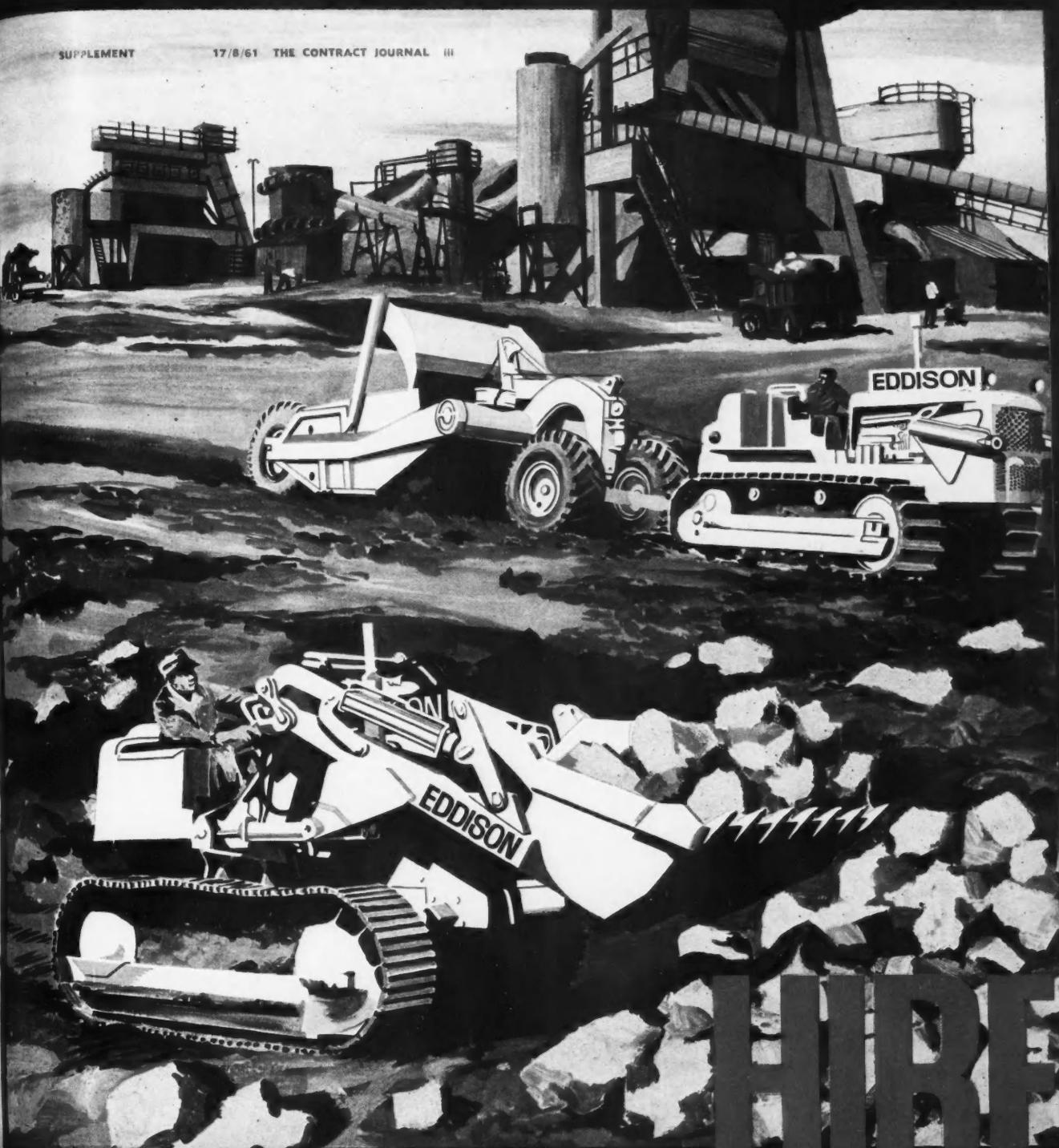
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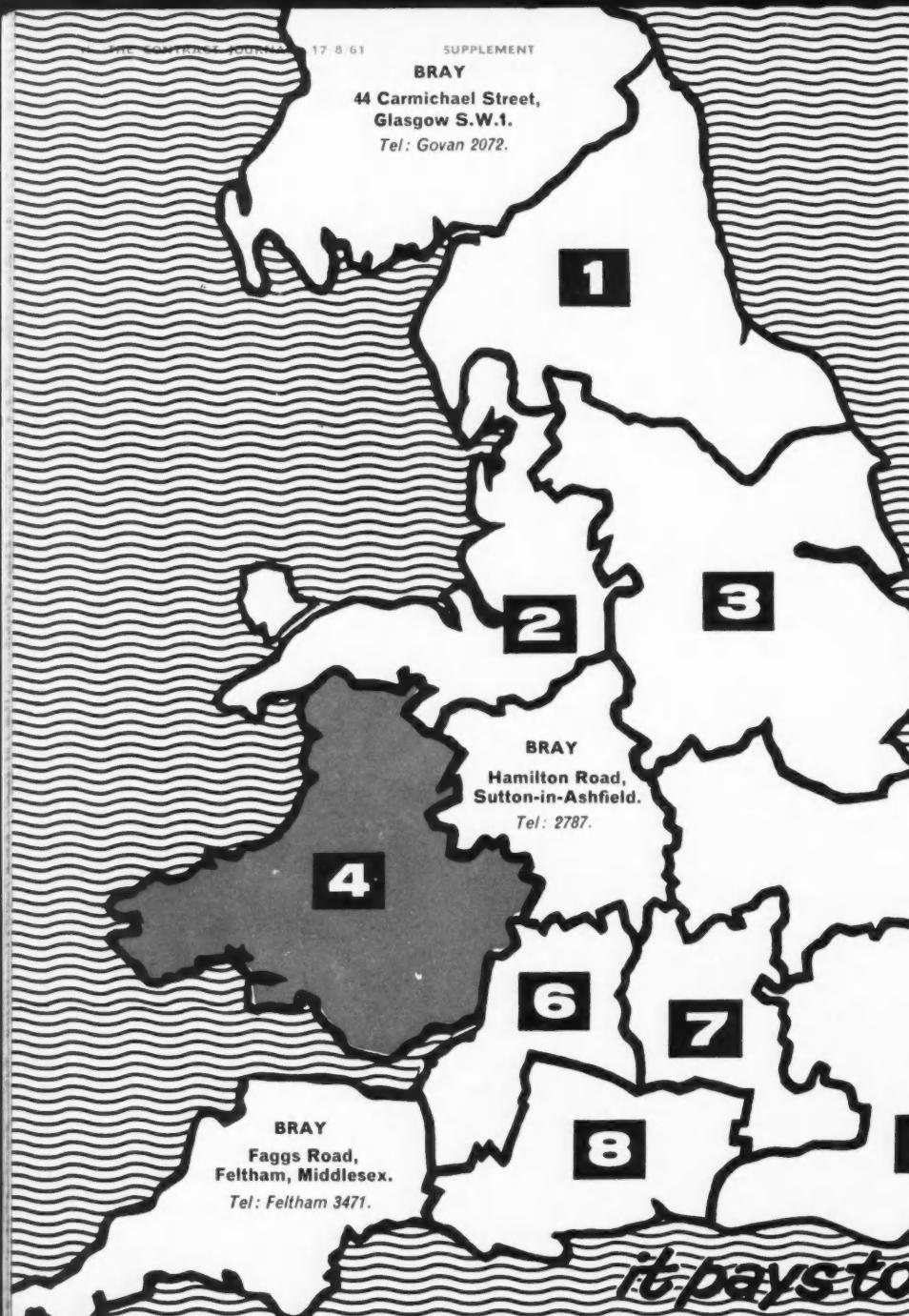


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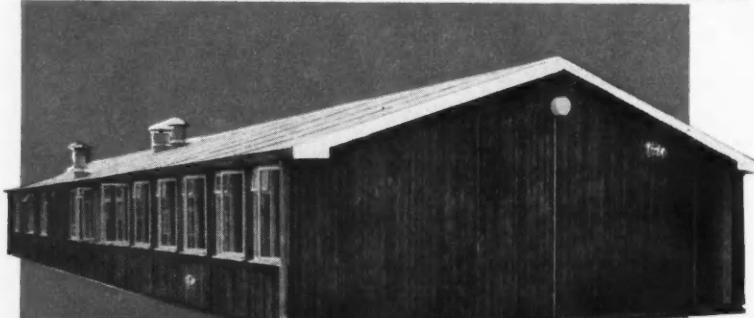
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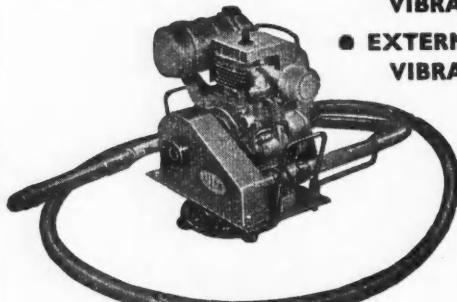
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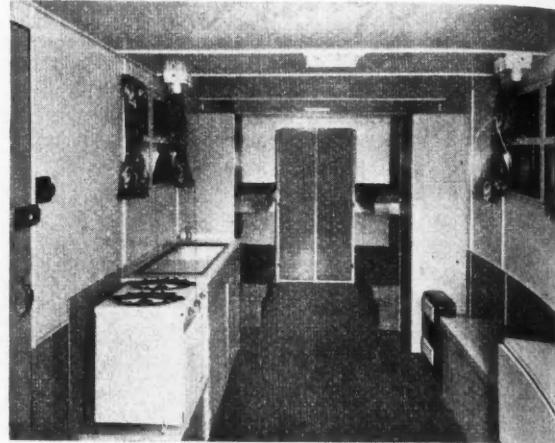
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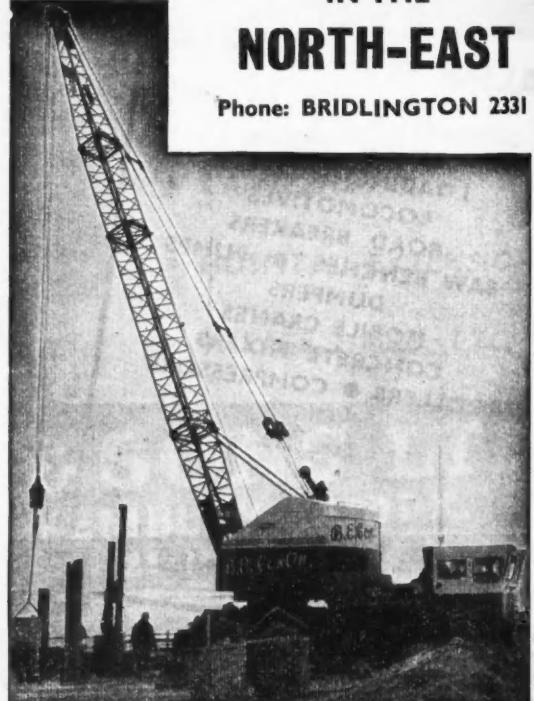
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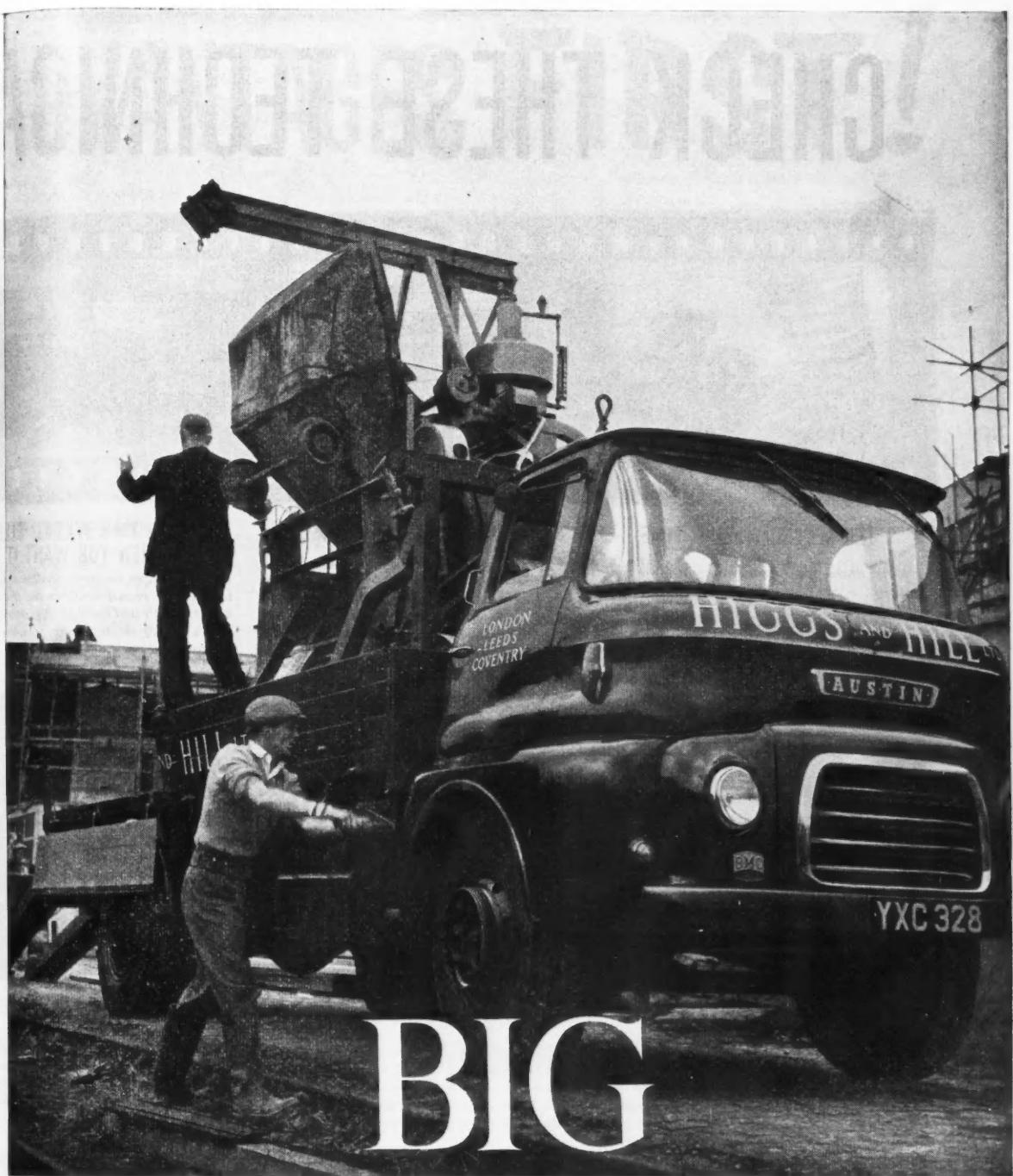
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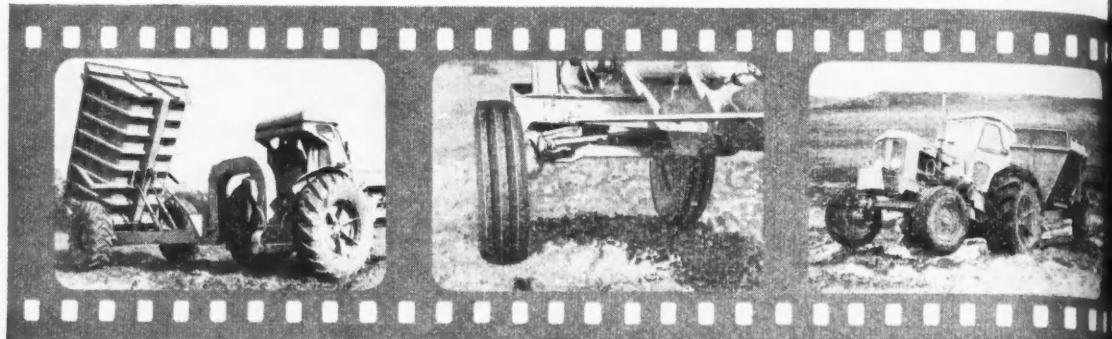
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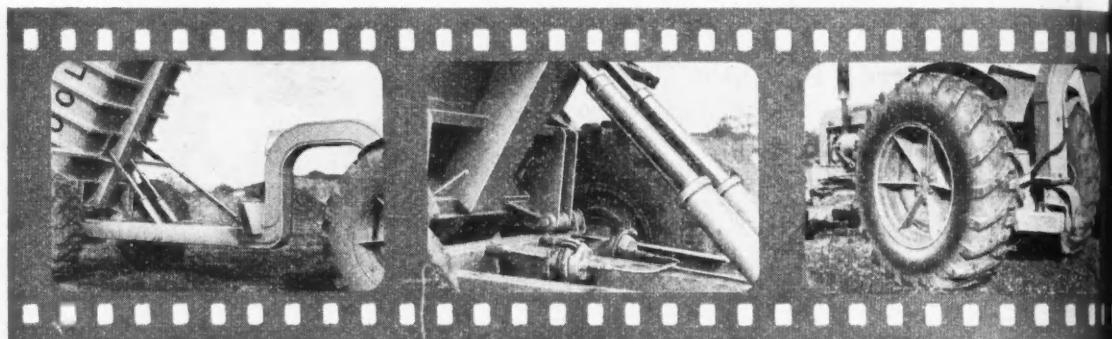
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*In deep mud, or on steep gradients, the variable transference principle allows the front axle to lift up slightly and the disc type steering box enables the driver to retain complete steering control at all times.*



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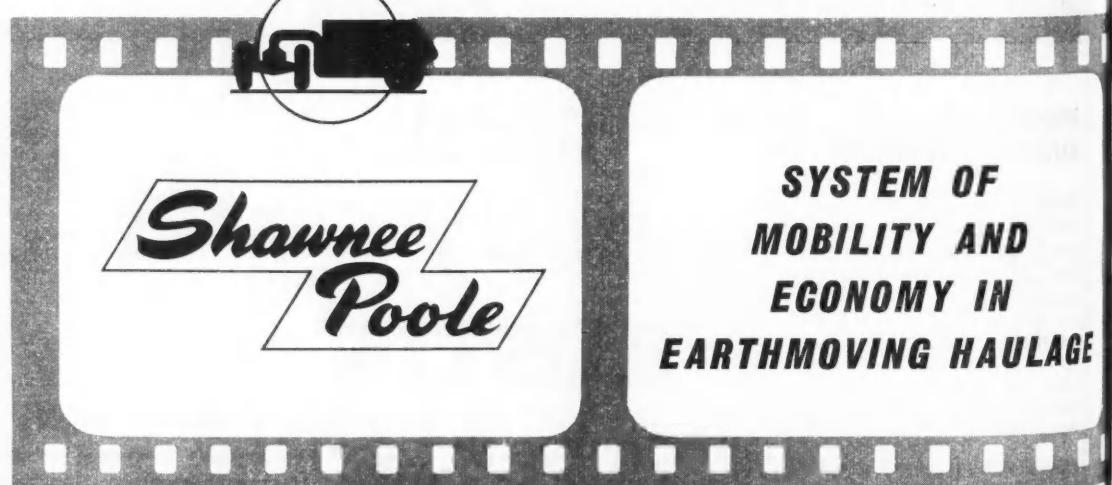
*Compare the chassis of the Shawnee Poole with a conventional vehicle and you will see Shawnee Poole's clean, sledge-type design is rugged and far less vulnerable. Note the ample ground clearance.*

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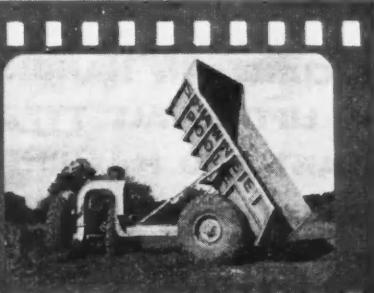
*The Operator has full control of the Shawnee Poole through the powerful compressed air brake system. In addition to normal braking control, correct application of the air brakes increases steering control under certain conditions.*

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*Shawnee Poole offers a wide range of optional tyres to suit all site conditions and to ensure maximum performance under the worst conditions. Your Dealer will gladly recommend the correct tyre for your particular job.*



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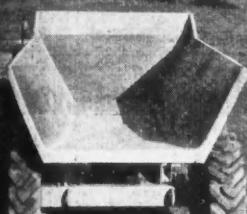
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*The Shawnee Poole System is manufactured under British and Foreign patents granted and pending.*

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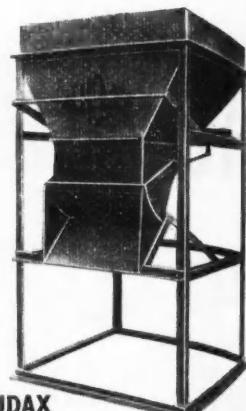
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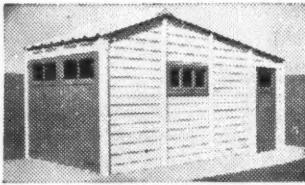
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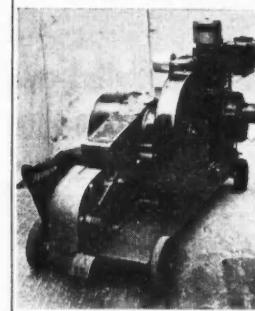
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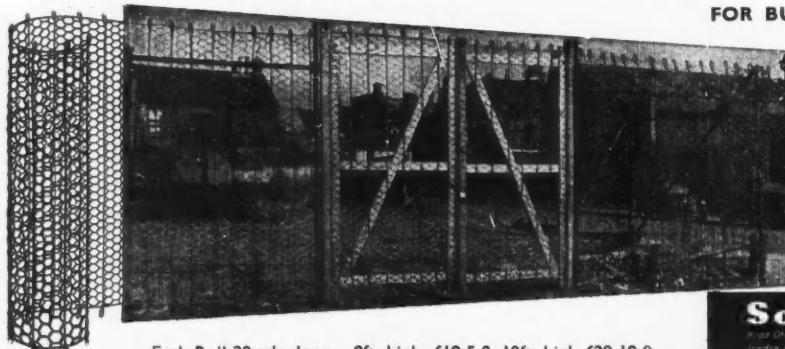
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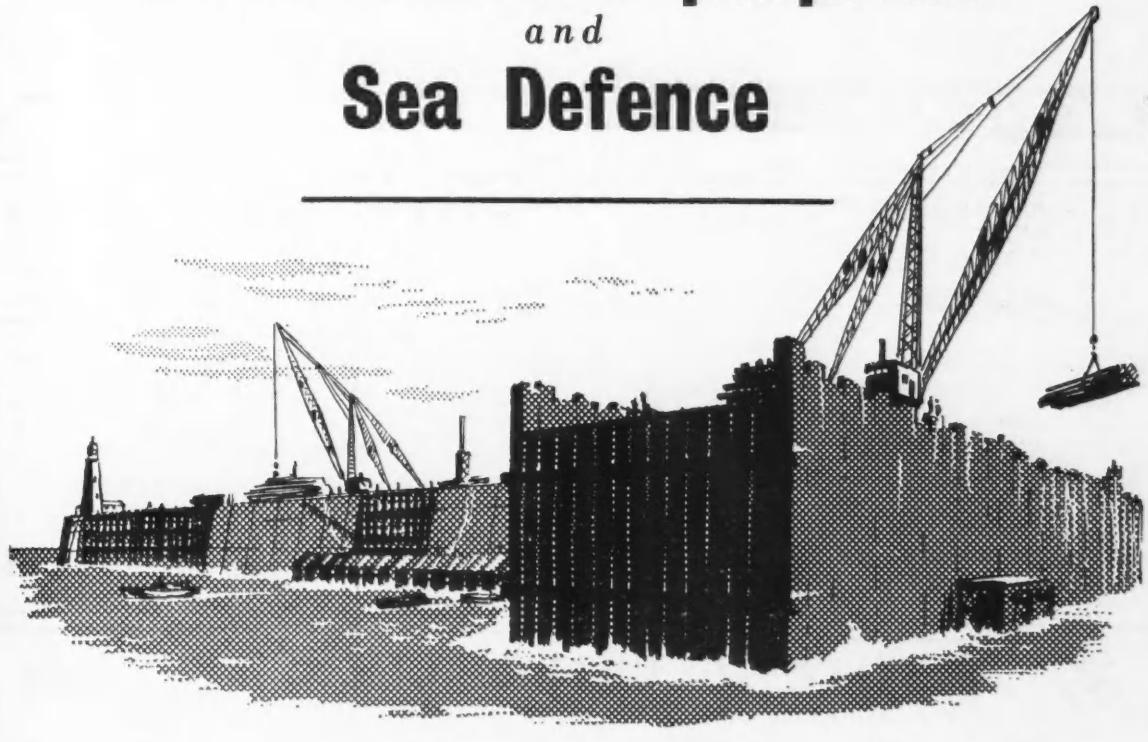


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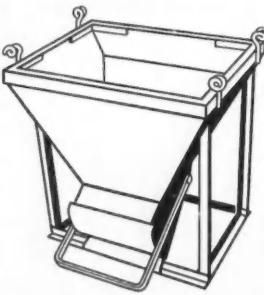
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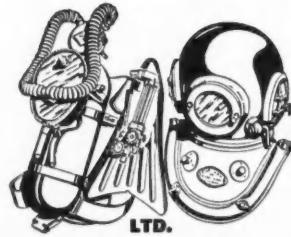
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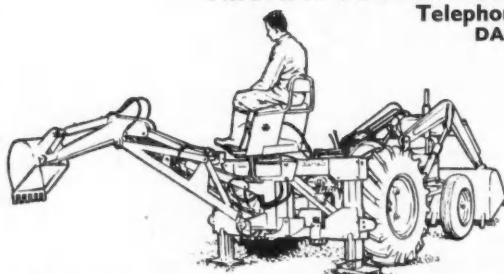
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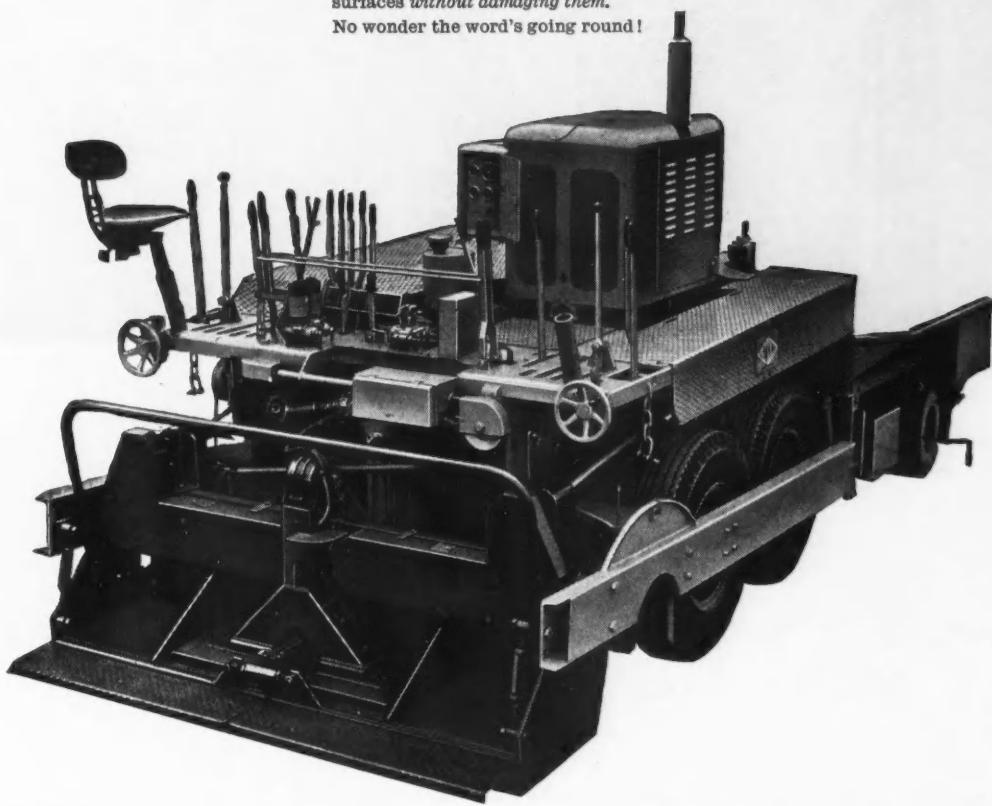
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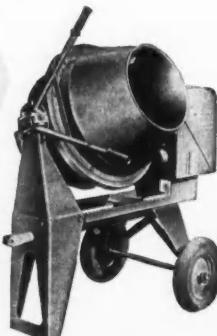
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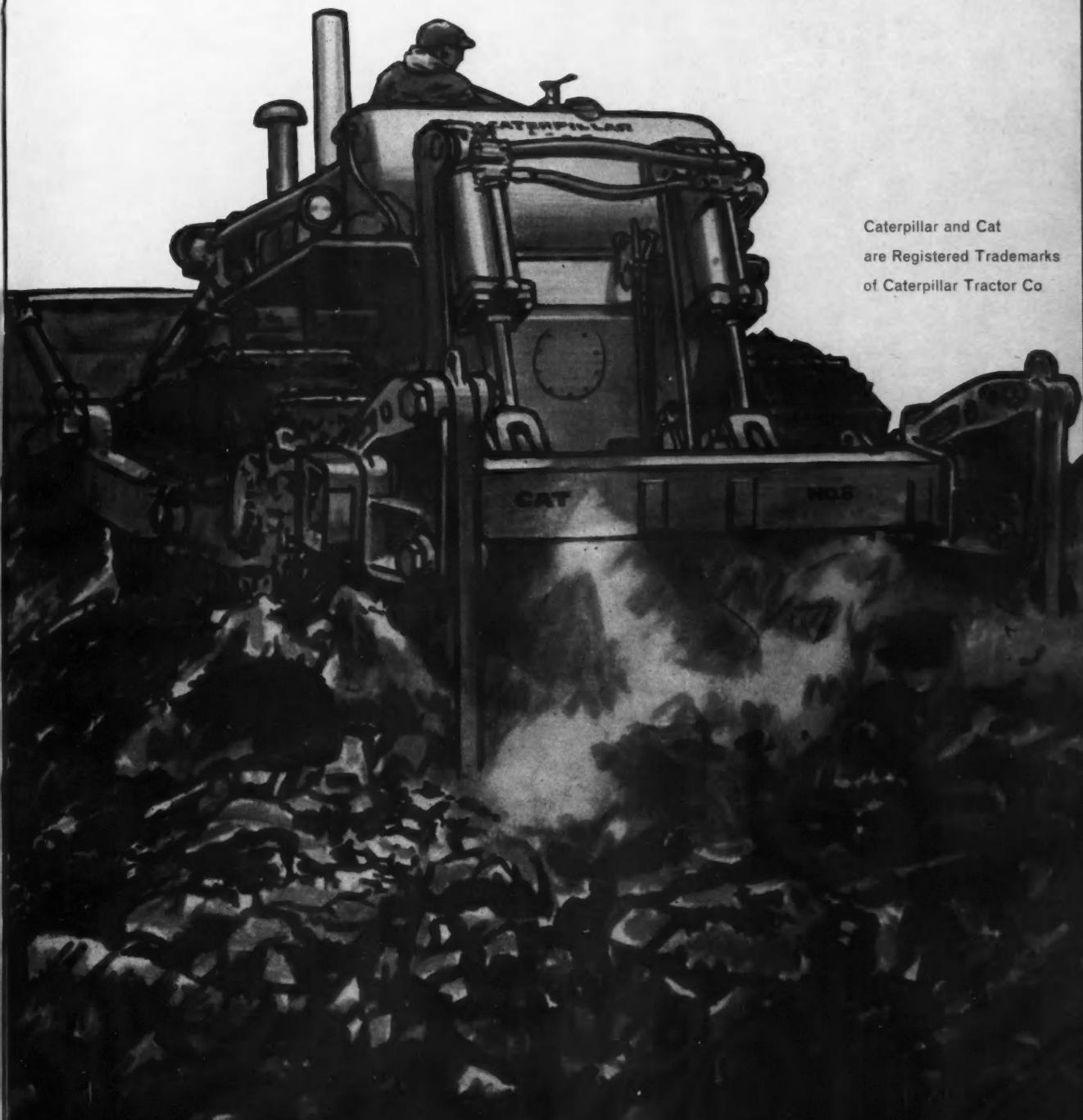
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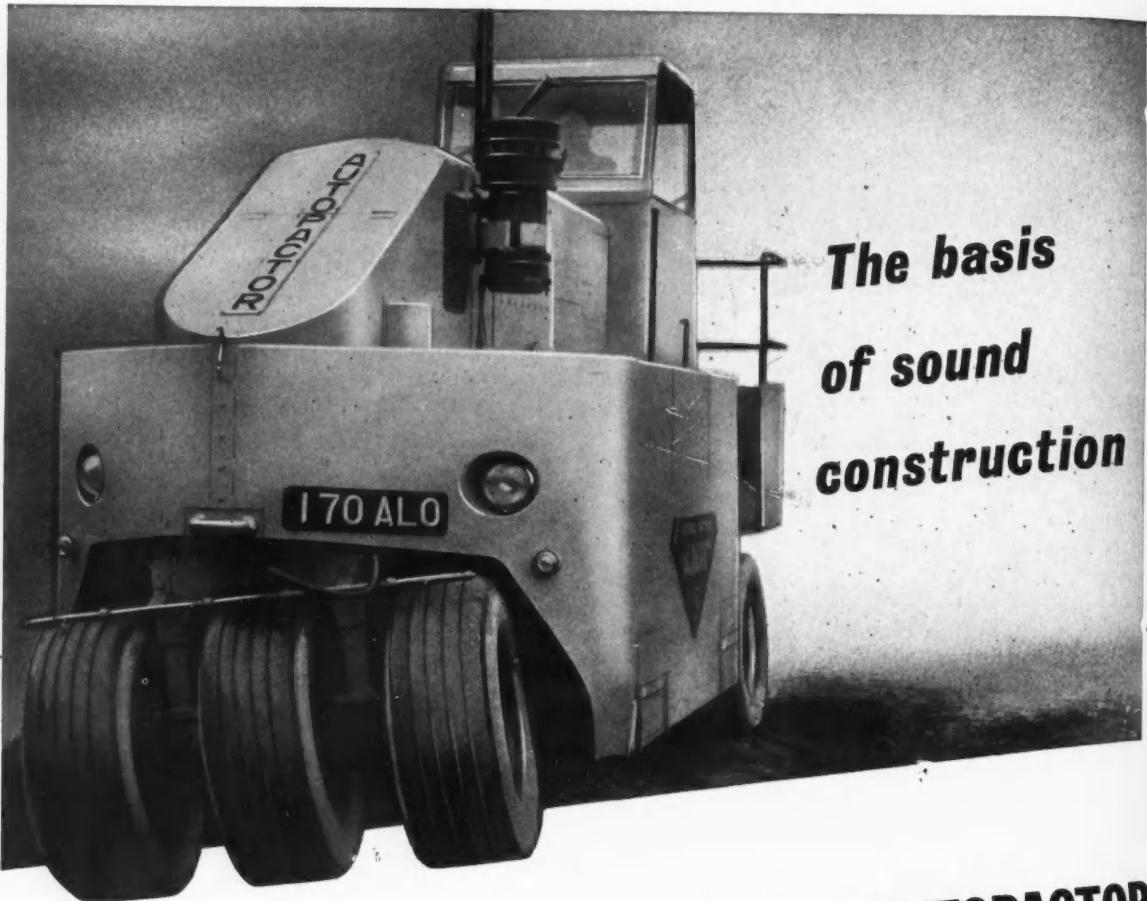
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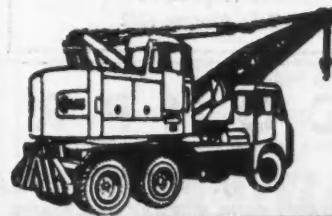
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# ★Further Classified Plant Advertisements on pages 846-852

## PLANT AND MACHINERY WANTED—FOR SALE—FOR HIRE

**MODERN PLANT FOR HIRE**, with experienced operators and backed by an efficient service organization:  
**EXCAVATORS** 1<sup>1/2</sup> to 3 cu. yd.  
**J.C.B. HYDRA-DIGGAS**.  
**DUMPERS**, 1<sup>1/2</sup> to 4 cu. yd., Diesel.  
**ROADMACHINES**, 1<sup>1/2</sup> to 12 tons.  
**COMPRESSORS**—Mobile and Portable, with every type of equipment.  
**Chaseside SHOVELS**, 1<sup>1/2</sup> to 1 cu. yd.  
**ANGLEDOZERS**—International and Fowler.  
**CONCRETE MIXERS**, 1<sup>1/2</sup> to 14/10 cu. yd.  
**PUMPS**, 1-in. to 6-in., Diesel.  
**Earth Rammers**, Holes, Cranes, Mortar Pans, Kanga Hammers, Roadforms, Traffic lights, Scaffolding and most types of Contractors' Plant.

HUBERT C. LEACH, LTD.,  
131 High Street, Cheshunt, Herts.  
Tel.: Waltham Cross 25161 (5 lines).

### WANTED TO BUY.

Two 38RBs, or similar capacity, with Shovel Equipments.  
 Two 38RBs, with Dragline Equipment.  
 Two 38RBs, or 24RBs, with Shovel Equipment.  
 One 54RB, with Shovel Equipment.  
**SHOVEL EQUIPMENT** for 33RB Excavator.  
 Caterpillar DB TRACTORS, with Hydraulic Bulldozing Equipments.  
 Four 22-ton capacity Euclids, with Rolls-Royce Engines.  
 Two Sheepfoot ROLLERS, weight 23 tons each.  
 One Rubber tyre Compaction ROLLER, 40-ton.  
 All machines preferably overhauled; ready to go

METAL UNION (PLANT), LTD.,  
75 Victoria Street, London, S.W.1. Victoria 4868/9.

**SURPLUS CONVEYOR BELTS**. New, unused and second-hand. Most widths up to 36in. in stock for immediate delivery. Second-hand Belts supplied on sale or return basis.  
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 Glasgow Area: London Road, Kilmallie (Tel. 2468).  
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**LARSEN FILES FOR HIRE**, 100 tons brand new Larsen 2 Sections, 30ft. long. Various lengths and sections of other files available immediately ex depot.  
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**BUCKET SPECIALISTS**—Special or Standard SHOVEL, TRENDERS, GRAS, and DRAGLINE BUCKETS, to suit all machines. Quick delivery—Write or phone the makers: NORTONS PLANT HIRE, LTD., Billericay, Essex. Tel.: Ramades Heath 365.

**FOR HIRE** in Leicestershire and adjacent counties. Coles and Hydrocon MOBILE CRANES and J.C.B. EXCAVATORS.—CREESE PLANT HIRE, Thurneyston, Leicester. Syton 2932/3.

### CRANES FOR SALE FROM OUR OWN STOCK.

Test certified before despatch.  
 8½-ton Rapier Super Diesel/Electric, pneumatics.  
 7-ton Rapier Fast Standard Diesel/Electric.  
 5-ton Colen Thorneycroft, Series 7, Mark 7, wire derrick.  
 5-ton Michigan Lorry Crane, Dorman Diesel, 25ft. Jib.  
 6-ton Rapier Standard Petrol/Electric, on solid rubber.  
 2½-ton Morris Petrol/Electric, pneumatics, electric start.  
 4-ton Staffa Diesel/Hydraulic, pneumatics.  
 3-ton Taylor Jumbo Diesel/Hydraulic, pneumatics.  
 2-ton Neals NM. Ruston Diesel, pneumatics, 30ft. Jib.  
 2-ton Jones KL22, Diesel, pneumatics, 24ft. Jib.  
 20ST Record Tower Crane, self-erecting, pneumatic tyres, 8cu.yd. at 34ft. radius.  
 2-ton Rapier 410, Diesel, tracks, 28ft. Jib.  
 Agents for New CRANES of all types.

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*The fastest slwing machine in production.*

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*When you next require any plant why not contact us and be sure of first-class machines with experienced operators backed by a highly efficient and well-equipped maintenance service*

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**The hire service  
that never lets  
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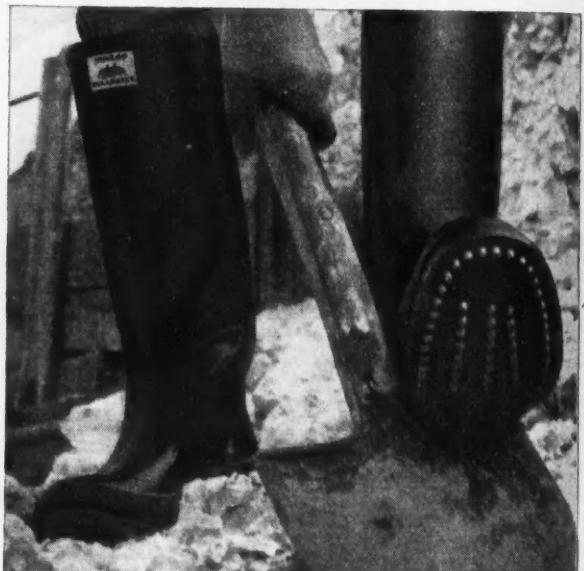
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OF CAMBERWELL

H. COX & SONS (PLANT HIRE) LTD.

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**Toughest boot of all—  
made for rough treatment**



**DUNLOP BULLDOZER BOOT**—really heavy-duty seamless rubber boot for building work, with Resifort sole. Light and flexible. Available with hob nails and digging plates if required. Also at home on the building site: *Workmaster*, sizes 5-11, 45/9d; *Target*, sizes 6-12, 33/6d; *Lumber*, sizes 5-12, 32/- or 35/6d.

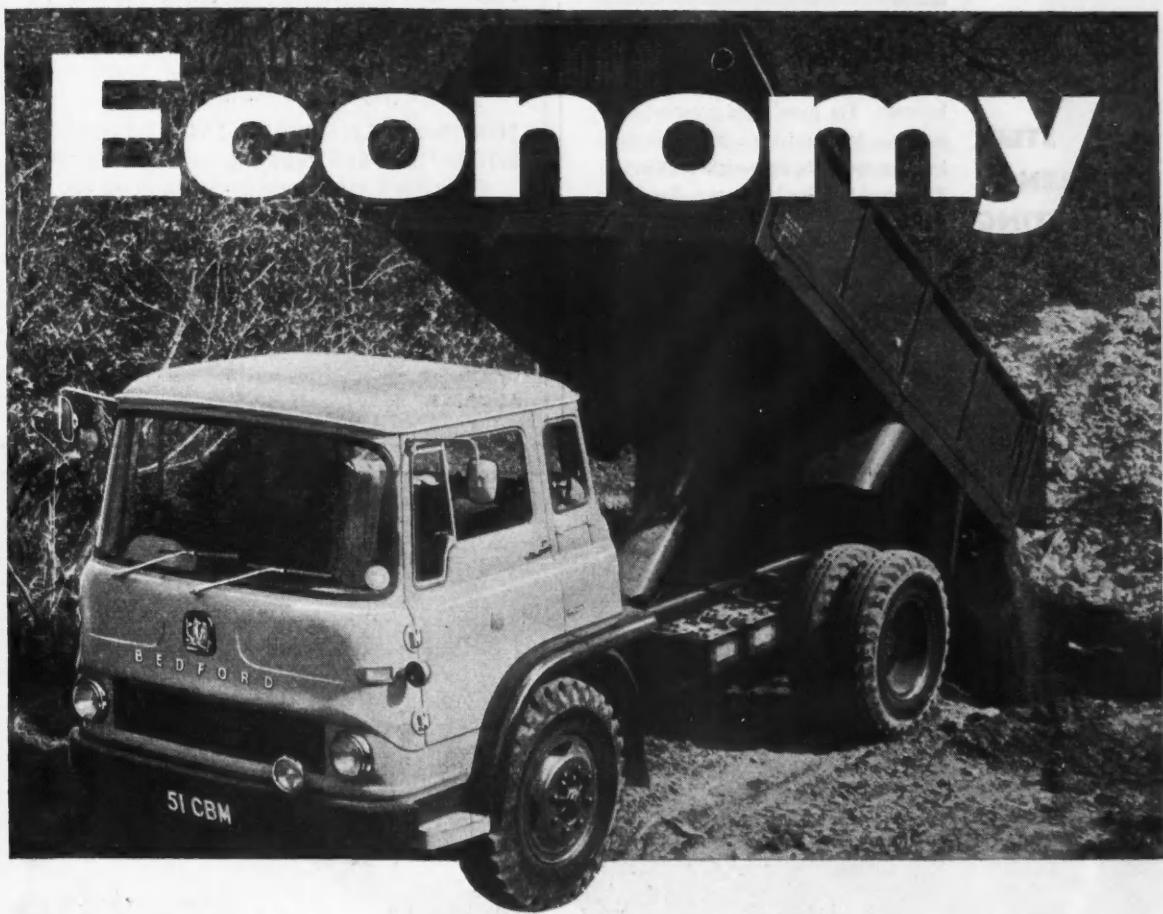
You get MORE LIFE out of  
**DUNLOP**  
FOOTWEAR



DUNLOP FOOTWEAR LTD., WALTON, LIVERPOOL 9



# Power Strength Economy



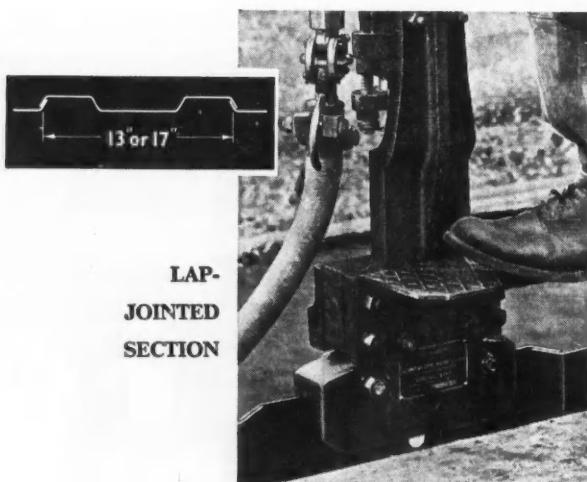
**The best  
balanced  
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in the  
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Rugged, high-torque Bedford diesel power unit . . . 4 or 5 speed gearbox . . . single or two-speed axle . . . 10 in. deep frame . . . air-pressure servo-assisted braking . . . plus the wonderful TK cab-ahead-of-engine design giving superb vision . . . easier access . . . simplified maintenance. 6 cubic yard capacity, gross vehicle weights up to 25,000 lb. The modern tipper for modern conditions.

**BEDFORD TK**

Vauxhall Motors Limited, Luton, Beds.

Full details from your Bedford dealer.



**STEEL  
TRENCH  
SHEETING**

Steel trench sheeting can be driven by hand or with a compressed-air-operated jack hammer. Far more rapid progress, however, and lower driving costs are obtained by using one of the lightweight McKiernan-Terry double-acting hammers, as illustrated above.

For full details of Sections T2 and T3 and of the hinge-jointed section L8, please write for List No. 212.



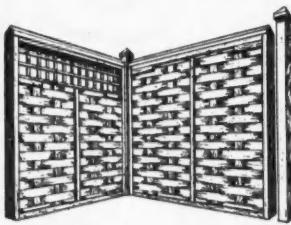
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# 33½% DISCOUNT 3% FOR YOU "WELLWOVEN" Fencing



Complete and beautify your property development with the best, cheapest and most attractive fencing on the market.

If you cannot add fencing as a gift—sell it as an optional extra! Just send the orders to us: we despatch and look after all the detail work, and you get your discount just the same. You can get discounts on Toogoods famous Garages, Sheds, Greenhouses, Gates, Coal Bunkers, etc., as well.

*Send the coupon now for full details.*

**TOOGOODS ARE FAMOUS FOR LOW COST PER SQ. FT.  
SITE OFFICES AND GENERAL PURPOSE BUILDINGS**  
for Site Works, Material Storage, Canteens, etc.

Please send details of Fencing Discounts scheme.

**FRANK W. TOOGOOD LTD.**

Dept. 30. WINTERSTOKE ROAD, BRISTOL 3.

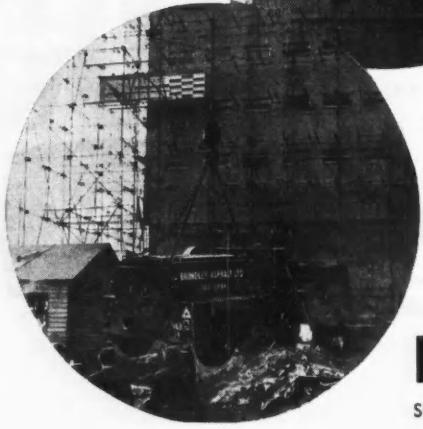
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BUILT BY BRAHAM

The hall-mark of all that is best and most economical in mastic asphalt cooking.



**Rising  
to the  
occasion**

Yes, there is a job of asphalt cooking up there on the roof of Stewarts & Lloyds great building. Quick, uniform cooking was needed, so up went the transporter

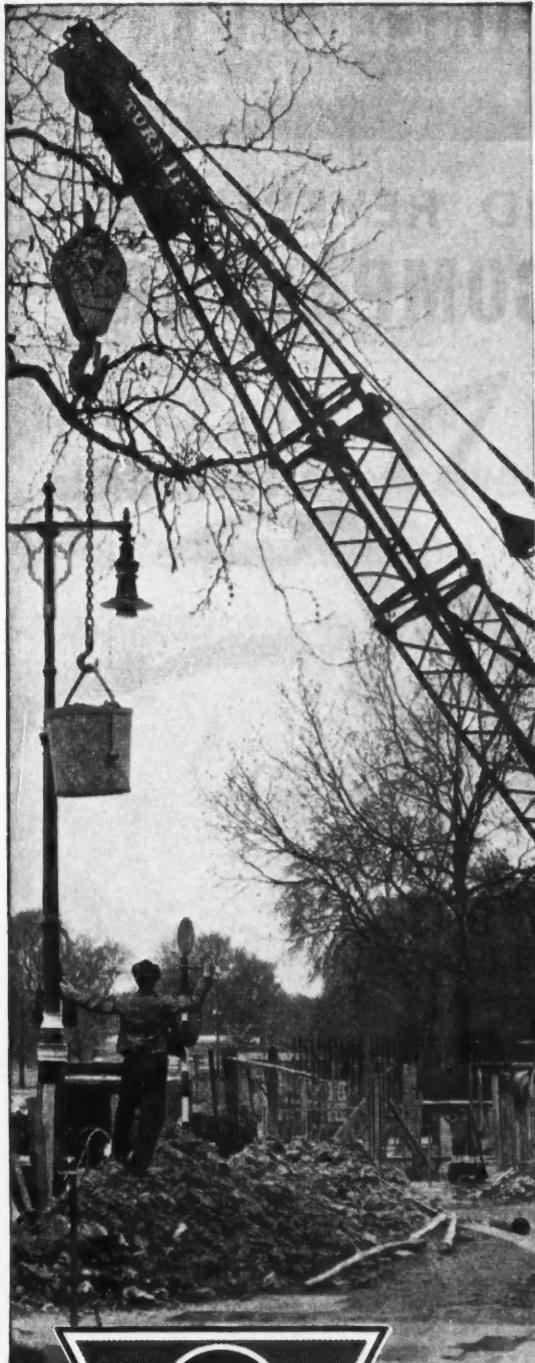
**BUILT by BRAHAM.**

The cooker that is always right on top of its job.

**BRAHAM, PATTERSON & BENHAM, LTD.**

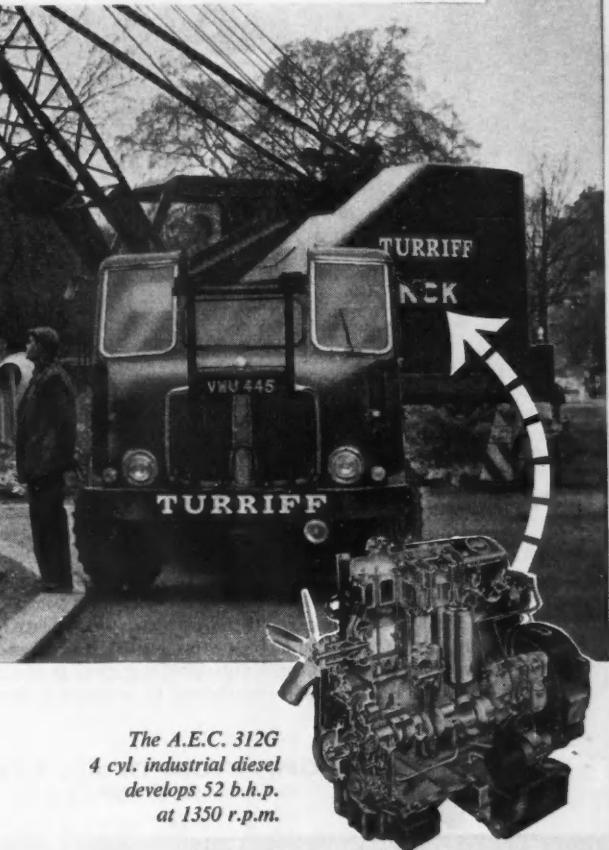
Straysfield Works, Clay Hill, Enfield, Middlesex.

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# A.E.C. Diesels do double duty

A 112 b.h.p. automotive A.E.C. diesel powers this N.C.K. Rapier 205 15 ton capacity truck crane carrier. An A.E.C. 312G diesel engine drives the crane upper unit. Here is an effective example of power standardisation with all its advantages of simplified service . . . here, too, is confirmation of the way in which leading contractors rely day in, day out on the full-throated power and reliability of A.E.C. diesels.



*The A.E.C. 312G  
4 cyl. industrial diesel  
develops 52 b.h.p.  
at 1350 r.p.m.*

A.E.C. LIMITED • DIESEL ENGINE DIVISION • SOUTHALL • MIDDLESEX

# COMPACTORS ENGINEERING LTD.

LOCKFIELD AVENUE, BRIMSDOWN, ENFIELD, MIDDX.

TELEPHONE: HOWARD 4063-5

## AUTOMATIC AND REVERSIBLE VIBROSOIL COMPACTOR



This Vibrating Plate Compactor travels automatically in either direction. There is no pushing, no pulling and no turning of the machine: the operator simply moves the handles from one side of the machine to the other and the direction of travel is instantly reversed. The machine can, consequently, work not only close alongside but also right up to walls and columns. The blows are heavy, the travel fast and the compaction excellent. The illustration shows the Model VS.O Compactor fitted with a 15" wide plate for the back-filling of trenches and foundations but the machine can also be supplied with a 36" wide plate for general compaction work and the two plates can be interchanged in a matter of minutes on the site. The Compactor is also available for hire and we shall be pleased to arrange a demonstration on your site without obligation.

PLATE COMPACTORS OF ALL SIZES ARE AVAILABLE FOR HIRE

# COMPACTORS ENGINEERING LTD.

LOCKFIELD AVENUE, BRIMSDOWN, ENFIELD, MIDDX.

TELEPHONE: HOWARD 4063-5

# GRADE - ability



**Cuts cycle time  
Eliminates expensive  
site preparation**

Even on the steepest gradients, rugged, mobile Shawnee Poole Rear Dump Haulers maintain high production figures. The Shawnee Poole System saves you up to 50% in total operating costs and increases production.

*Ask for a Job Survey on your site.*

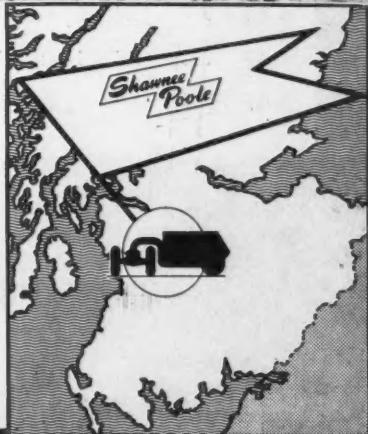
*The Shawnee Poole System is manufactured under British and Foreign patents granted and pending.*



**CALEDONIAN MECHANICAL HANDLING  
CO. LTD.**

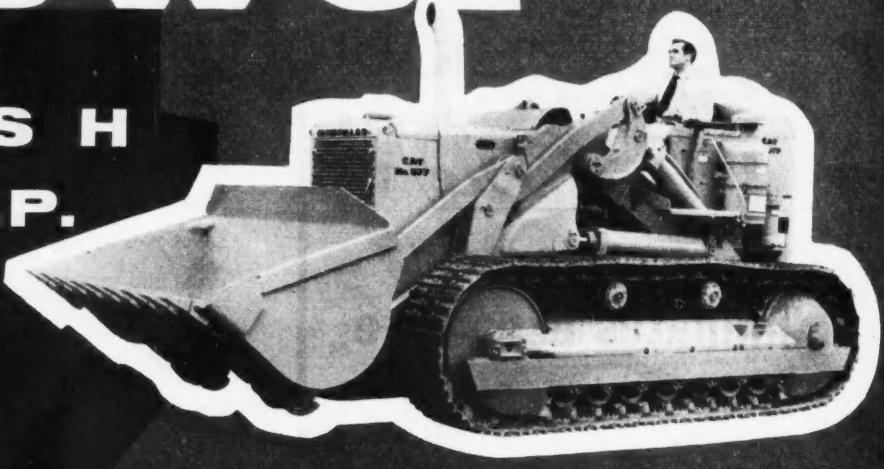
**21 OLD CASTLE ROAD, GLASGOW S.4**  
*Telephone: MERRYLEE 2353*

*for Scotland*



# Hire Power

**SERIES H**  
**150 H.P.**



**CATERPILLAR 977**

Higher Power = more speed = Less cost.  
Hire 1961 Machines for this year's work and  
you will get value for hire money.

Only SPECIALIST hire services can keep  
continually up to date and we specialise in  
Traxcavators.

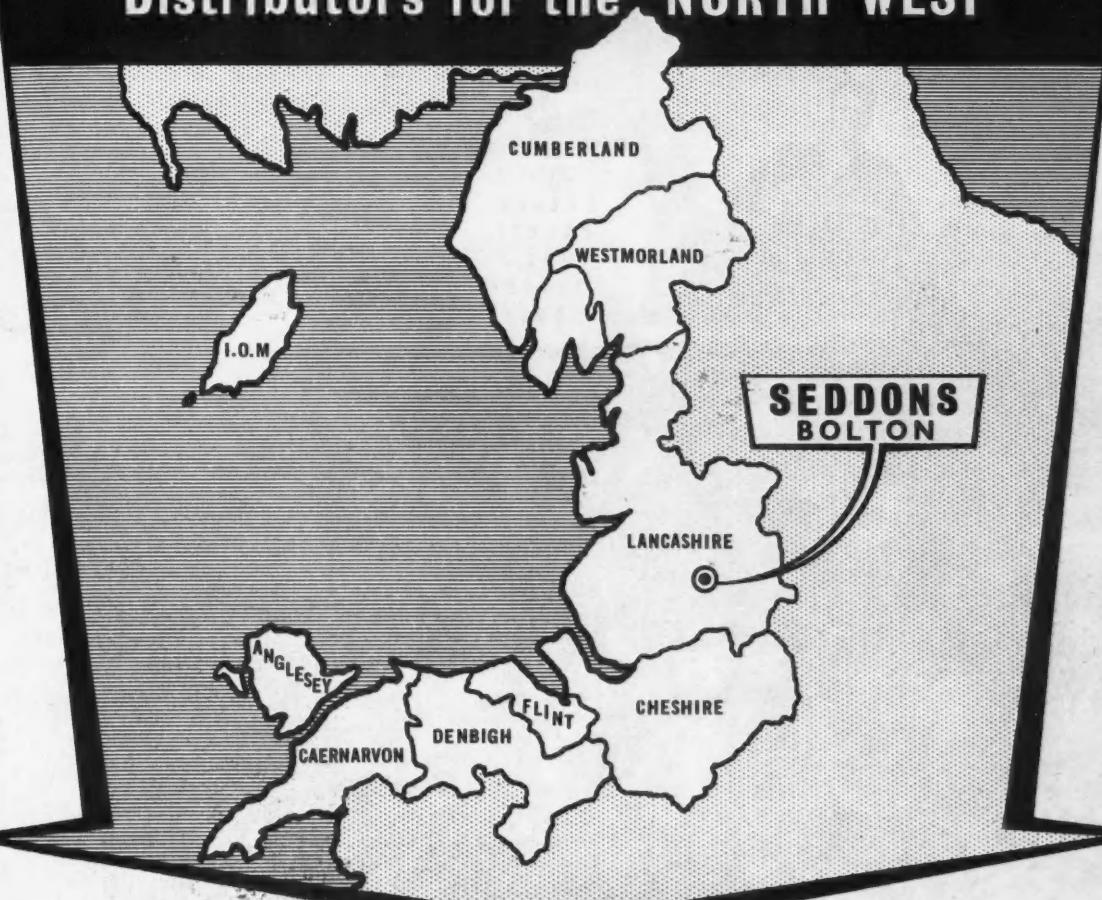
**NOW AVAILABLE**

CAT 977 'H'	2½ cu. yds.
CAT 977 'E'	2¼ cu. yds.
CAT 955 'H'	1¾ cu. yds.
CAT 955 'F'	1½ cu. yds.

**MOBILE  
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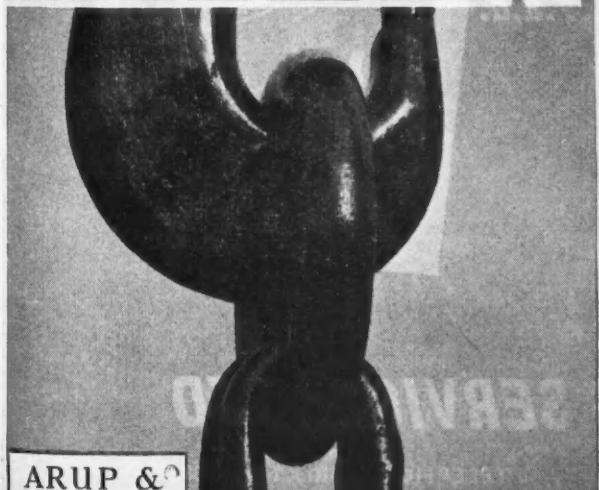
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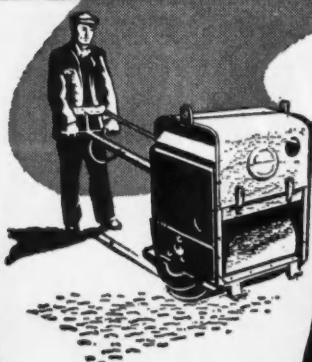
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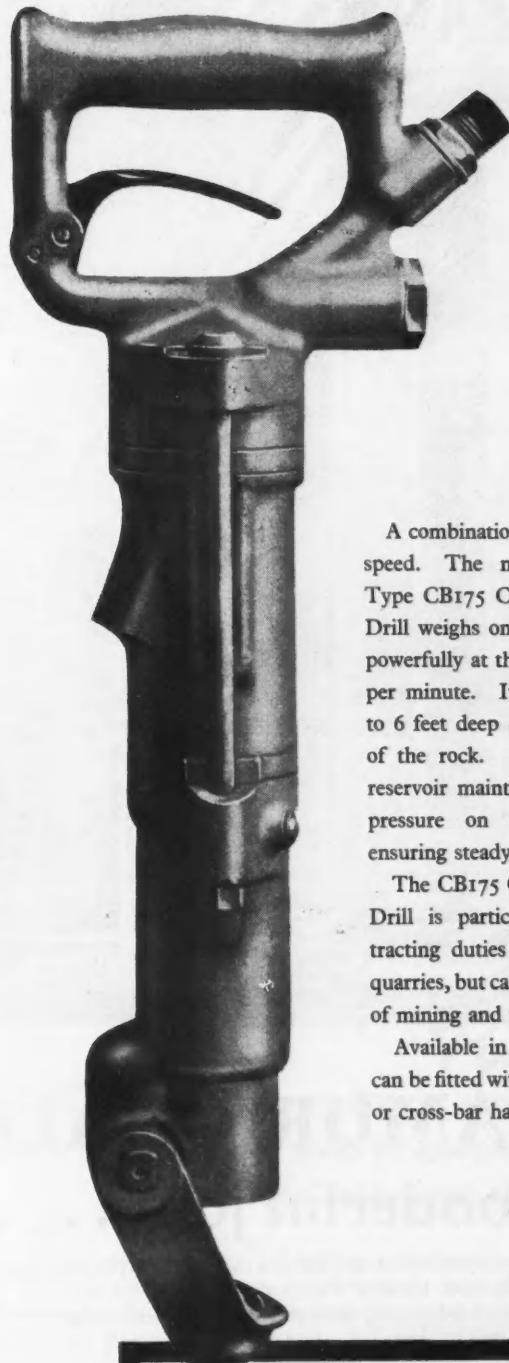
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The CB175 Combined Plug and Rock Drill is particularly suitable for contracting duties and pop-holing work in quarries, but can also be used for a variety of mining and tunnelling jobs.

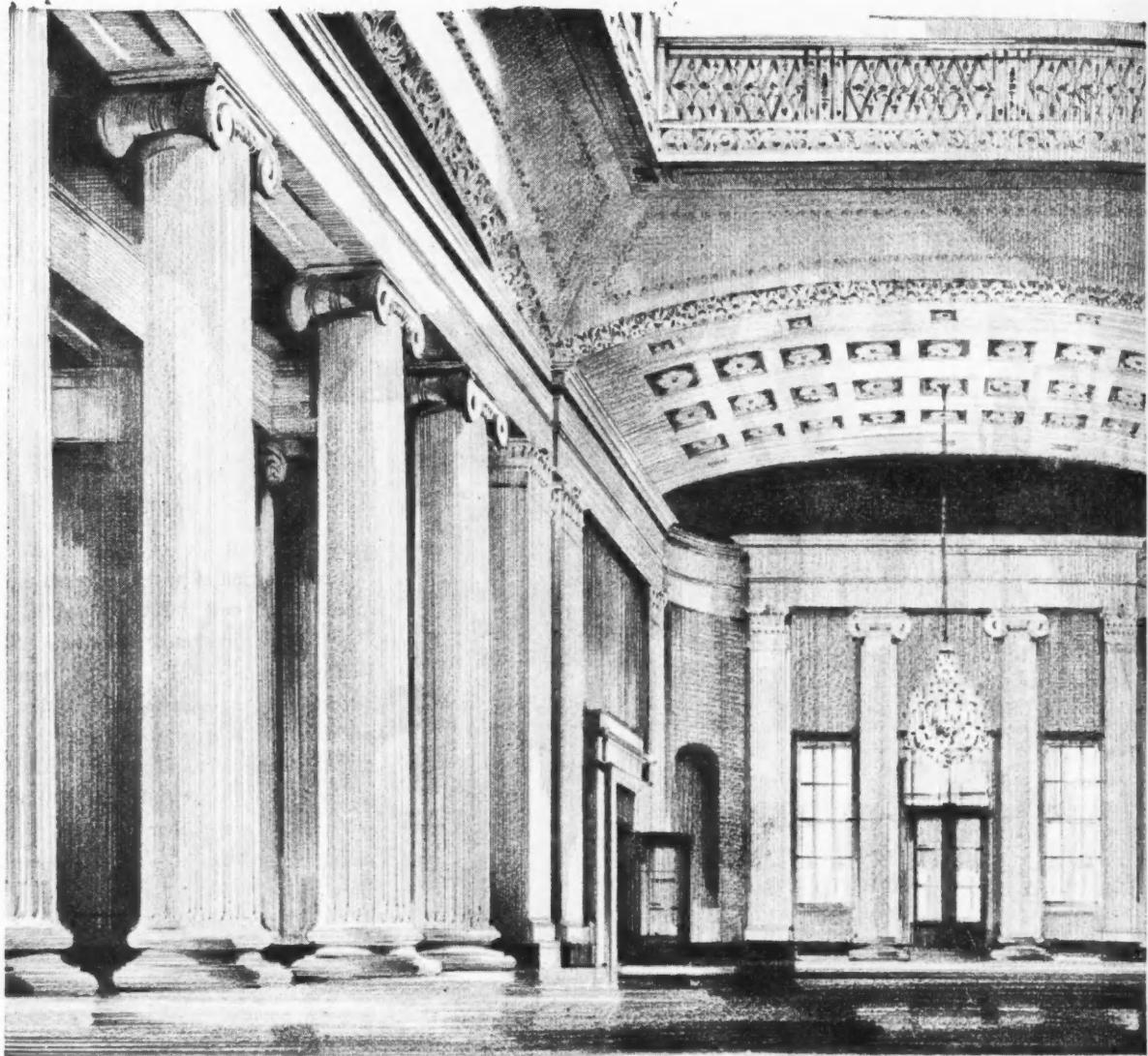
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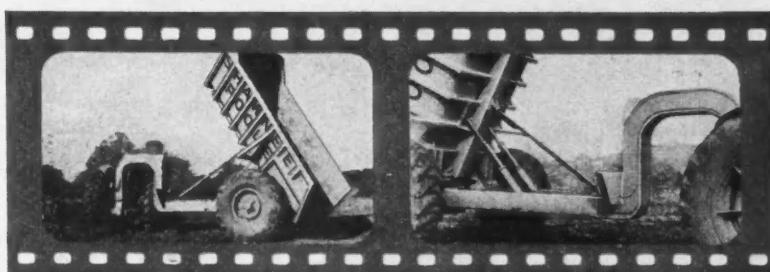
**DARWEN SATIN FINISH.** In a range of 27 intermixable colours. Satin sheen for any interior surface. Steamproof and washable. Darwen Flat Finish also available.

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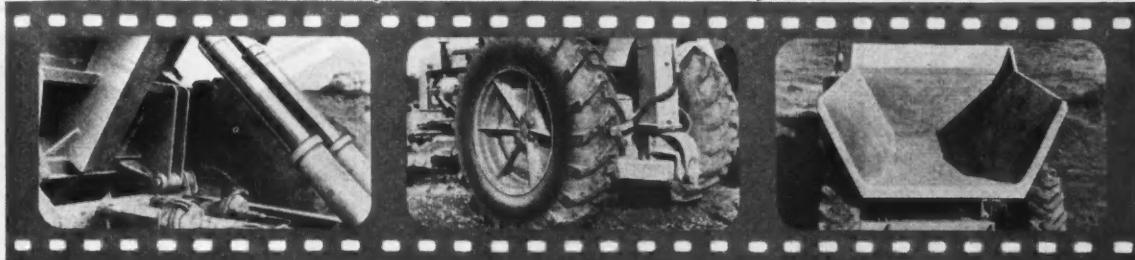


## 60° ANGLE OF TIP

Twin hydraulic two-stage rams give the Operator ten seconds tipping time and a 60° angle of tip, ensuring quick and effective discharge of wet or dry loads.

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Compare the chassis of the Shawnee Poole with a conventional vehicle and you will see Shawnee Poole's clean, sledge-type design is rugged and far less vulnerable to damage. Note the ample ground clearance.



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The Operator has full control of the Shawnee Poole through the powerful compressed air brake system. In addition to normal braking control, correct application of the air brakes increases steering control under certain conditions.

## OPTIONAL TYRES

Shawnee Poole offers a wide range of optional tyres to suit all site conditions and to ensure the best performance under the worst conditions. Your Dealer will gladly recommend the correct tyre for your particular job.

## BIG TARGET AREA

The big 70 sq. ft. target area makes loading easier and faster with all types of loading equipment.

Thousands of hours of user experience prove the technical advantages of the Shawnee Poole System of mobility and economy in earthmoving and industrial haulage. In addition, there is the safety of the Shawnee Poole coupling with its low mounting points, its three plane articulation and low centre of gravity.

Easy maintenance is yet another feature, and remember the hundreds of Shawnee Poole users who are proving daily that the Shawnee Poole System is the simplest and most economical method of hauling earth. Ask us for a Job Survey on your site.

**Shawnee  
Poole**

**SYSTEM OF MOBILITY  
AND ECONOMY IN  
EARTHMOVING HAULAGE**

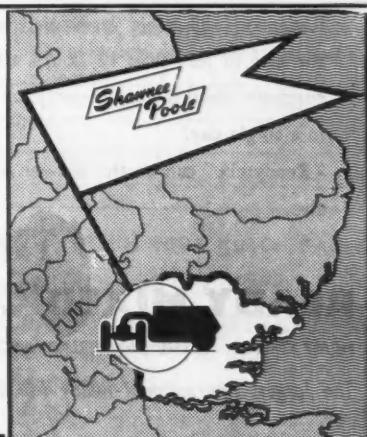
*The Shawnee Poole System is manufactured under British and Foreign Patents granted and pending*

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Architects : Lewis Solomon, Kay & Partners. Consulting Engineers : W. V. Zinn & Associates.  
Main Contractor : Token Construction Company Limited.

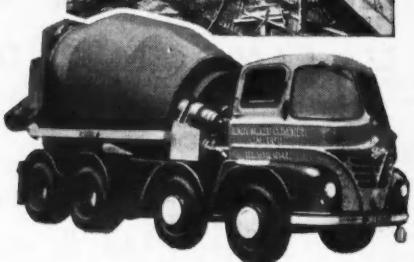
28 Stories high, the London Hilton, when completed, will be the tallest hotel in Britain. Over 40,000 cubic yards of "Readymix" Concrete will be required to assist the Contractor to maintain his schedule.

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## CONTRACTS

## BOROUGH OF ENFIELD.

12 THREE-STORY FLATS, 22 HOUSES AND  
34 GARAGES.

FERNS NURSERY ESTATE.

Building contractors desirous of tendering for the ERECTION of 12 THREE-STORY FLATS, 22 HOUSES and 34 GARAGES at the FERNS NURSERY ESTATE, Enfield, should apply to the Borough Engineer and Surveyor, MR. H. DERYCK PEAKE, M.R.I.C.E., 7, Castle Park Gardens, Enfield, by First Post, Tuesday, 22nd August, 1961. Bills of Quantities and Forms of Tender will be forwarded on or about the 25th August, 1961.

All applications must be accompanied by a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender, addressed to the undersigned, and/or return of all documents.

Plans and Conditions of Contract may be inspected at the offices of the Borough Engineer as aforesaid on or after the 28th August, 1961, on Monday to Friday, between the hours of 9 a.m. and 12.30 p.m.

The Tender must reach the undersigned not later than Noon on MONDAY, the 18th September, 1961, and no Tender will be received except in a plain envelope, which must be sealed, and must bear the words "Tender for 12 Flats, 22 Houses and 34 Garages, Ferns Nursery Estate, Enfield," but shall not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

Contractors tendering will be required to submit particulars of similar works which have been carried out by them.

CYRIL E. C. R. PLATTEN,  
Town Clerk.

Civic Centre,  
Enfield,  
Middx.

## CITY OF CAMBRIDGE.

## PIPING OF PUBLIC DITCHES.

TENDERS are invited for the PIPING of DITCHES on THREE SEPARATE SITES, less than one mile apart. Works include Laying approximately 50 lin. yd. of 3in. Concrete Pipes, 50yd. of 15in. Concrete Pipes, 60yd. of 12in. S.G.W. Pipes, and 330yd. of 4in., 6in. and 9in. Porous Concrete Pipes, and Three Small Bricks Manholes.

Application for Specification, Drawing, Bills of Quantities and Form of Tender must be made to the City Surveyor, The Guildhall, Cambridge. Tenders must be received by 3 p.m. on the 14th SEPTEMBER, 1961.

Applications must be accompanied by a deposit of Two Guineas, which will be returned on receipt of a bona-fide Tender.

The lowest or any Tender will not necessarily be accepted.

ALAN H. I. SWIFT,  
Town Clerk.

The Guildhall,  
Cambridge.  
July, 1961.

## PRESOC URBAN DISTRICT COUNCIL.

## INSTALLATION OF 80-WATT MERCURY FLUORESCENT STREET LIGHTING.

The Council invite TENDERS for the SUPPLY and ERECTION of 80-Watt Mercury LANTERNS, mounted on 15ft. Concrete Utilities Columns, together with Lambs and ancillary gear, on VARIOUS ROADS within the District.

Details and Specifications relating thereto can be obtained from, and the Conditions of Contract and Drawings inscribed at the office of the Engineer and Surveyor, at the address below.

Tenders, in plain sealed envelopes endorsed "Tender for Street Lighting," are to be delivered to the undersigned not later than SATURDAY, 9th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. LAMBERT,  
Clerk of the Council.

Council Offices,  
Prescot.  
July, 1961.

## HATFIELD RURAL DISTRICT COUNCIL.

## SURFACING DELLSEOME LANE ESTATE.

**FIXED-PRICE TENDERS** are invited for the CONSTRUCTION of approximately 650 sq. yd. of CONCRETE CARRIAGeway, 950 sq. yd. of BITUMEN MACADAM FOOTPATHS, 3,500 sq. yd. of VERGES and GRASSED AREAS, together with other ancillary Works.

Specification, Bills of Quantities and Form of Tender can be obtained on payment of £2 2s. deposit, returnable after receipt of a bona-fide Tender, from the Engineer and Surveyor, North Place, 82 Great North Road, Hatfield, where Drawings and documents may be inspected during working hours.

Tenders to be submitted in the envelope provided, to the undersigned, not later than 12 Noon on FRIDAY, 8th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

S. F. JAGO,  
Clerk of the Council.

Council Offices,  
16 St. Albans Road,  
Hatfield,  
Herts.  
1st August, 1961.

## DEVON RIVER BOARD.

## RIVER EXE IMPROVEMENT SCHEME.

## TIVERTON—PART I.

TENDERS are invited for the CONSTRUCTION of a SYSTEM of RETAINING WALLS, FLOOD CONTROL Structures on the banks of the RIVER Exe at Tiverton.

The works comprise 620 lin. yd. of Reinforced Concrete Cantilever Retaining Walls, of heights varying from 4ft. to 10ft. Bricking-up of Openings below existing factory buildings, Modification to a small Bridge and Making Good of existing Walls.

Copies of the Contract documents may be obtained from the Chief Engineer, Devon River Board, 1, Southgate Road, Exeter, on payment of a deposit of £5 5s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. The Drawings may also be examined at that Office by appointment during normal working hours.

Tenders, in plain sealed envelopes marked "River Exe Improvement Scheme—Tiverton—Part I," must be received by me on or before the 11th SEPTEMBER, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

H. G. GODSALL,  
Clerk.

Devon River Board,  
The Castle,  
Exeter.

## THE CONTRACT JOURNAL

## SUPPLEMENT

## 783

## CONTRACTS

## BOROUGH OF HARROW.

TENDERS are invited for the DEMOLITION of UNDERGROUND AIR-RAID SHELTERS and of the OPEN SPACE at CHURCH FIELDS, Harrow-on-the-Hill. (Explosives not permitted.)

Drawings and Conditions of Contract may be inspected at the office of, and a copy of the Form of Tender, Specification and Bills of Quantities obtained on application to the Borough Engineer, at the Council Offices, Uxbridge Road, Stanmore, Middlesex, on payment of Two Pounds by crossed cheque payable to the Harrow Borough Council, returnable where a bona-fide Tender reaches the Council within the prescribed time.

Tenders, on prescribed forms enclosed in a plain envelope bearing no indication of the sender, and endorsed "Tender—Demolition of Underground Air-raid Shelters," to be delivered to the office of the undersigned not later than 10 a.m. on TUESDAY, 29th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

DAVID PRITCHARD,  
Town Clerk.

Town Clerk's Office,  
Harrow Weald Lodge,  
Harrow Weald,  
Harrow,  
Middlesex.

## BOROUGH OF HARROW.

## DENSE TAR SURFACING—CAR PARK.

TENDERS are invited for PROVIDING and LAVING DENSE TAR BASE and WEARING COURSES to a CAR PARK PEEL ROAD, Wealdstone, Middlesex, of approx. 1,600 sq. yd.

Drawings and Conditions of Contract may be inspected at the Office of, and a copy of the Form of Tender, Specification and Bills of Quantities obtained on application to the Borough Engineer, at the Council Offices, 48 Uxbridge Road, Stanmore, Middlesex, on payment of Two Pounds by crossed cheque made payable to Harrow Corporation, returnable where a bona-fide Tender reaches me within the prescribed time.

Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender, and endorsed "Tender—Dense Tar Surfacing—Peel Road Car Park," to be delivered to my Office not later than 29th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

DAVID PRITCHARD,  
Town Clerk.

Council Offices,  
Harrow Weald Lodge,  
92 Uxbridge Road,  
Harrow Weald,  
Middx.

## BOROUGH OF HARROW.

IMPROVEMENT TO BRIDGE APPROACHES—  
PHASE II—CUCKOO HILL, PINNER.

TENDERS are invited for RAISING the LEVELS on the BRIDGE APPROACHES in Lean-Mix Concrete and Surfacing of approx. 3,000 sq. yd. of Carrigeway, together with approx. 500 lin. yd. of Surface Water Sewer, the Construction of approx. 400 sq. yd. of New Bituminous Footway, and ancillary works.

Drawings and Conditions of Contract may be inspected at the Office of, and a copy of the Form of Tender, Specification and Bills of Quantities obtained on application to the Borough Engineer, at the Council Offices, 48 Uxbridge Road, Stanmore, Middlesex, on payment of Two Pounds by crossed cheque made payable to Harrow Corporation, returnable where a bona-fide Tender reaches me within the prescribed time.

Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender, and endorsed "Tender—Reconstruction of Approaches to Cuckoo Hill Railway Bridge," to be delivered to my Office not later than 10 a.m. on TUESDAY, 29th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

DAVID PRITCHARD,  
Town Clerk.

Council Offices,  
Harrow Weald Lodge,  
92 Uxbridge Road,  
Harrow, Middx.

## DOCKING RURAL DISTRICT COUNCIL.

BURNHAM MARKET SEWERAGE AND  
SEWAGE DISPOSAL SCHEME.

**FIXED-PRICE TENDERS** are invited from experienced public works contractors for the CONSTRUCTION of a SYSTEM OF SEWERAGE and a Sewage Disposal Works at Burnham Market, King's Lynn.

The works comprise: (a) The Provision and Laying of approx. 5,200yd. of Sewers in 6in. and 9in. dia. Concrete Pipes, and the Construction of 76 Concrete Tube and Brick Manholes; (b) the Construction of a Brick and Concrete Pumping Station, and the Laying of approx. 700yd. of 6in. dia. Lateral Rising Main; (c) the Construction of a complete Sewage Disposal Works comprising Settlement Tanks, Biological Filter, etc.; and (d) as a provisional item, the Laying of approx. 1,300yd. of Lateral Connections and up to 3,000yd. of House Connections.

The Contract documents and Drawings will be available for inspection by appointment at the Offices of the Council, or at the Office of the County Public Health Engineer, County Offices, Thorpe Road, North NOR.47A, during normal office hours, on and after Friday, the 11th August, 1961.

Copies of the Form of Tender, General Conditions and Specification, Bill of Quantities and other Contract documents may be obtained from the County Public Health Engineer at the above address, on payment of a deposit of Ten Guineas (by cheque made payable to the Docking R.D.C.), which will be refunded on receipt of a bona-fide Tender, not subsequently withdrawn and the return of all documents loaned to the contractor.

Tenders, made out on the form provided in the Contract documents, and accompanied by the Quantities priced in ink, must be enclosed in a plain sealed envelope endorsed "Tender—Burnham Market Sewerage Scheme," and delivered to the undersigned not later than Noon on SATURDAY, the 16th September, 1961.

The lowest or any Tender will not necessarily be accepted, and the work will be subject to the final approval of the Minister of Housing and Local Government after submission of an estimate based on a provisionally accepted Tender.

J. H. MARSHALL,  
Clerk of the Council.

Council Offices,  
Docking,  
King's Lynn,  
Norfolk.  
August, 1961.

## CONTRACTS

## GLOUCESTERSHIRE COUNTY COUNCIL.

LONDON-FISHGUARD TRUNK ROAD, A.40—  
BARRINGTON BENDS IMPROVEMENT.

TENDERS are invited for the ABOVE WORKS, situated approx. 3 miles west of Burford on the county boundary, consisting of the Reconstruction and widening of ¾ mile of Carrigeway, and Including Earthworks, Draining, Lean-Mix Concrete Foundations, Granite Sett, Kerbing and Bitumen Surfacing. The site will be cleared and fenced.

Tender documents from the County Surveyor, Quay Street, Gloucester, to be returned by First Post, THURSDAY, 7th September, 1961.

GUY H. DAVIS,  
Clerk of the Council.

## WARWICKSHIRE COUNTY COUNCIL.

## HIGHWAY IMPROVEMENT.

WEEDON-ATHERSTONE-BROWNHILLS  
TRUNK ROAD, A.5.

## A.427 TO RAILWAY BRIDGE.

TENDERS are invited for the RECONSTRUCTION of the ABOVE ROAD.

The Scheme comprises Widening and Superelevating the existing Carrigeway, and includes Lean-Mix Concrete Foundations with Coated Macadam Surfacing, Kerbing and Drainage.

The works are subject to the Ministry of Transport Standard Conditions of Tender, Contract and Specification.

The Drawings may be inspected at the Office of the County Surveyor, Shire Hall, Warwick, during normal office hours.

Copies of the Form of Tender and the Bill of Quantities may be obtained from the same Office on payment of a deposit of £2 2s., which will be returned upon receipt of a bona-fide Tender or the return of the documents.

The Council do not bind themselves to accept the lowest or any Tender.

Tenders, enclosed in a plain sealed envelope endorsed "Tender for Weeden-Atherstone-Brownhills Trunk Road—A.5. to Warwick," to be returned to the Office of the County Surveyor, Shire Hall, Warwick, not later than Noon on MONDAY, 28th August, 1961.

L. EDGAR STEPHENS,  
Clerk of the Council.

## BUCKS. COUNTY COUNCIL.

## NEWPORT PAGNELL-BEDFORD ROAD, A.422.

## ROADWORKS—CHICHELEY VILLAGE.

TENDERS are invited for the RECONSTRUCTION and WIDENING to 24ft. of approximately 1,300yd. of CARRIGEWAY, CONCRETE and TAR-MACADAM SURFACING, including kerbing, Channelling, Draining, and ancillary Works.

Drawings may be seen at the office of the County Surveyor, County Offices, Aylesbury, from whom Contract documents may be obtained on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must be received by me by 10 a.m. on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,  
Clerk of the Bucks. County Council.

## BUCKS. COUNTY COUNCIL.

## THE HIGHWAYS ACT, 1959. THE CODE OF 1892.

## CROFT ROAD, CHALFON ST. PETER.

TENDERS are invited for the MAKING-UP of the ABOVE STREET.

Specification, Form of Tender and Contract, and Bill of Quantities may be obtained from the County Surveyor, County Offices, Aylesbury.

Applications must be accompanied by a remittance for £2 which will be refunded on receipt of a bona-fide Tender.

Such Tenders must be delivered to the undersigned by MONDAY, 4th September, 1961, in the envelope provided, endorsed "Private Street Works—Croft Road," but not bearing any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,  
Clerk of the Bucks. County Council.

## CITY OF WORCESTER.

## (RE-ADVERTISEMENT.)

## TENDERS.

ERECTION OF 10 DWELLINGS—POWL'S ROW  
REDEVELOPMENT AREA, ST. JOHNS.

TENDERS are invited for the ERECTION of these DWELLINGS, comprising Traditional Brick-built Two-storey Blocks of One-bedroom Flats.

Documents obtainable from the City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Three Guineas (cheques payable to Worcester Corporation), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents.

Tenders to be posted to the Town Clerk to arrive not later than MONDAY, 18th September, 1961.

BERTRAM WEBSTER,  
Town Clerk.

## ALFRETON URBAN DISTRICT COUNCIL.

## TENDERS—STREET LIGHTING.

TENDERS are invited for the INSTALLATION of 179 LIGHTING UNITS, including 140-watt Sodium Atlas Lamps and Stanton Concrete Cylinders.

Forms of Tender, Specification, and Bills of Quantity may be obtained from the City Engineer and Surveyor upon a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender.

Tenders must be deposited not later than 12 Noon, SATURDAY, the 26th August, 1961, addressed to me in a plain sealed envelope and endorsed "Tender for Street Lighting."

The Council do not bind themselves to accept the lowest or any Tender.

H. TAYLOR,  
Clerk of the Council.

Council Offices,  
Nottingham Road,  
Alfreton,  
Derbys.

## CONTRACTS

**NEW SOUTH WALES, AUSTRALIA.**  
DEPARTMENT OF MAIN ROADS.  
MUNICIPALITY OF ROCKDALE AND SHIRE OF SUTHERLAND.  
SOUTHERN EXPRESSWAY.

PROPOSED BRIDGE OVER THE GEORGE'S RIVER, BETWEEN SANSCOU and TAREN POINT.

TENDERS, suitably endorsed and addressed to the Secretary, Department of Main Roads, Box 3903, G.P.O., Sydney, New South Wales, Australia, are invited from experienced bridge contractors, and will be received up to 2.15 p.m. on THURSDAY, 1st February, 1962, for the CONSTRUCTION of THE SANSCOU PRESTRESSED CONCRETE BRIDGE, 1,662ft long, over the GEORGE'S RIVER, between SANSCOU and TAREN POINT, about 12 miles south of the central business area, Sydney, in accordance with the exhibited Drawings and Specifications prepared by the Department. Tenders are to be priced in terms of Australian Currency.

Copies of these Drawings and Specifications will be exhibited at the offices of the Department of Main Roads, 309 Castlereagh Street, Sydney, and the Agent General for New South Wales, 56-57 Strand, London, W.C.2.

Copies of the Specifications may be purchased from the Department of Main Roads, Sydney, or from the Agent General for New South Wales, London, W.C.2, for the sum of £1 5s. per set, and sets of half-size Drawings for the sum of £2 5s. per set. Full-size Drawings may be obtained from the Department of Main Roads, Sydney, at the rate of 5s. per sheet. Prices will be in Australian Currency in Sydney, and Sterling in London.

Tender forms may be obtained at each of the offices at which the Drawings and Specifications are exhibited.

R. S. JOHNSTON,  
Secretary.

**COUNTY BOROUGH OF IPSWICH.**

TENDERS are invited for the CONSTRUCTION and COMPLETION of ROADWORKS in the FOLLOWING PRIVATE STREETS, within the Borough:

(1) Dale Hall Lane (Part);  
(2) Dales Road (Part).

The work comprises the Excavation for, and Construction of, approx. 1,250 sq. yd. of Carriageway in 12in. Hardcore with a Wearing Course of 3in. Coated Macadam, 420 lin. yd. of Kerbing and Curbstone, 820 sq. yd. of Pavement, and all necessary ancillary works.

Form of Tender, General Conditions of Contract, Specification, Bill of Quantities and Drawings may be obtained from the Borough Surveyor, 19 Tower Street, Ipswich, upon payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes bearing the words "Tender for \_\_\_\_\_," but with no name or mark to indicate the sender, must be delivered to the undersigned by Noon on FRIDAY, 8th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

J. C. NELSON,  
Town Clerk.

Town Hall,  
Ipswich.

**CITY OF WORCESTER.**  
ERCTION OF 156 DWELLINGS—  
WARNDON ESTATE.

TENDERS are invited for the ERCTION of THESE DWELLINGS, comprising Traditional Brick-built Three-storey Blocks of One-bedroom and Two-bedroom Flats. Documents obtainable from the City Engineer, Surveyor, 22 Bridge Street, Worcester, upon deposit of Three Guineas (equivalent to "Worcester Corporation"), which will be refunded after receipt of a bona-fide Tender and the return of tender documents. Tenders to be posted to the Town Clerk to arrive not later than MONDAY, 18th September, 1961.

BERTRAM WEBSTER,  
Town Clerk.

Guildhall,  
Worcester.

**CITY OF WINCHESTER.**

The CORPORATION invite TENDERS for the CONSTRUCTION of approx. 600yd. of 6in. and 9in. FOR SEWER in DEAN LANE, Winchester (C.464), and all incidental works.

Copies of Specification and Form of Tender may be obtained from the City Engineer, Guildhall, Winchester, on payment of a deposit of £2 2s. 6d. which will be refunded on receipt of a bona-fide Tender and the return of all documents. Drawings and General Conditions of Contract may be inspected in the City Engineer's Department.

Tenders, in plain sealed envelopes endorsed "Dean Lane Sewer," should reach the undersigned not later than FRIDAY, 1st September, 1961.

R. H. McCALL,  
Town Clerk.

Guildhall,  
Winchester.

8th August, 1961.

**ALFRETON URBAN DISTRICT COUNCIL.**

## HEATING AND PLANING OF CARRIAGEWAYS.

TENDERS are invited for the HEATING and PLANING of approximately 23,000 sq. yd. of CARRIAGEWAYS in the ALFRETON URBAN DISTRICT during September, 1961.

Form of Tender and Schedule of Works may be obtained from the Surveyor, Council Offices, Nottingham Road, Alfreton.

Tenders, in plain envelopes marked "Heating and Planing," should be addressed to the undersigned, and must be received by 26th AUGUST, 1961.

H. TAYLOR,  
Clerk of the Council.

Council Offices,  
Nottingham Road,  
Alfreton,  
Derbyshire.

**HINCKLEY URBAN DISTRICT COUNCIL.**

## TRUNK ROAD A.47—SHILTON HILL DIVERSION.

The Council invite TENDERS for the ABOVE SCHEME, comprising the Construction of a 60ft. wide Road, 800yd. long, and Drainage and ancillary Works. Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained from the Drawings Inspector at the Office of Surveyor, Argent House, St. Mary's Road, Hinckley, upon payment of a deposit of £2, refundable after receipt of a bona-fide Tender and the return of documents.

Tenders, in plain sealed envelopes in the envelope provided and delivered to the CLERK OF THE COUNCIL, 23 Station Road, Hinckley, not later than THURSDAY, 7th September, 1961.

## CONTRACTS

**STAFFORDSHIRE COUNTY COUNCIL.**  
COUNTY ROADS AND BRIDGES COMMITTEE.  
THELMA AVENUE, BROWN EDGE,  
STOKE-ON-TRENT.

SERVICE ROAD AT BADDELEY GREEN LANE,  
BADDELEY GREEN, STOKE-ON-TRENT.

TENDERS are invited for the MAKING-UP of THELMA AVENUE (length 136yd.) and the SERVICE ROAD at Baddeley Green Lane (length 131yd.). The work includes Excavation of the existing Carrigeway, Laying 3in. Ashes, 6in. Broken Stone with 3in. Bituminous Macadam, Kerbing, Concrete Kerbs, In-situ Concrete Channels and Foot-paths of 3in. Ashes with 1½in. Bituminous Macadam Surface with 1½in. Cold Asphalt.

It also includes a 6in. dia. Surface Water Drain for Thelma Avenue.

Copies of the Specification and Bills of Quantities for each scheme may be obtained from the undersigned on payment of a deposit of £5 which shall be refunded on receipt of a bona-fide Tender or on the return of the documents before the closing date.

Tenders, endorsed "Private Street Works," and bearing no indication of the sender, should be returned to the undersigned not later than 10 a.m. on 6th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

T. H. EVANS,  
Clerk to the County Council.

County Buildings,  
Stafford.  
4th August, 1961.

**STIRLING COUNTY COUNCIL.**  
ROADS DEPARTMENT.

LONDON-EDINBURGH-THURSO TRUNK ROAD.  
EDINBURGH-PERTH, A.9.

IMPROVEMENT AT BO'NESS BRANCH RAILWAY BRIDGE.

The Council invite FIXED-PRICE TENDERS from experienced contractors for the CONSTRUCTION of approx. 1,100 lin. yd. of ROADWORKS with 24ft. Carrigeway, 6ft. Kerbstone and Verge, the CONSTRUCTION of CONCRETE SINGLE SPAN BRIDGE across the Bo'ness Branch railway, and ancillary works.

Contract documents may be obtained from the County Road Surveyor, Causewayhead School, By Stirling, on payment of £5 which will be returned on receipt of a bona-fide Tender and received and not subsequently withdrawn.

Sealed Tenders, endorsed "Tender for Improvement at Bo'ness Branch Railway Bridge," must be returned to the undersigned not later than Midday, 4th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

JAMES D. KENNEDY,  
County Clerk.

County Offices,  
Viewforth,  
Stirling.  
4th August, 1961.

**BOROUGH OF TWICKENHAM.**

The CORPORATION invite TENDERS for the RECONSTRUCTION and SUPERELEVATION of PART OF STRAWBERRY VALE and TWICKENHAM ROAD, A.310.

The works comprise approx. 2,700yd. Bituminous Macadam and Cold Asphalt, and ancillary works.

Plans may be inspected, and Specification, etc., obtained upon application to the Borough Engineer, Municipal Offices, York House, Twickenham, and the payment of Two Guineas deposit, returnable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes, and not bearing any name or mark indicating the sender, are to be delivered to the undersigned not later than 10 a.m. on MONDAY, 11th September, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. H. JONES,  
Town Clerk.

Municipal Offices,  
Twickenham.

**ALSAGER URBAN DISTRICT COUNCIL.**  
PIKEMERE ROAD RECONSTRUCTION  
(ROADWORKS AND SEWERS).

TENDERS, on a Fixed-price Basis, are invited for the Reconstruction of 1½ miles of Road with a Wet-mix Base Course and Asphalt Surfacing, Concrete Kerbs and Flagged Foot-paths, and the Laying of ¾ mile of Salt Glazed Ware Sewers, mostly 9in. to 18in. dia. with Concrete Manholes.

The Roadwork will be under the direction of the Council's Surveyor, and the Sewer Work under Council's Consulting Engineers, MESSRS. W. H. RADFORD AND SON, of Nottingham.

Tendering documents are obtainable from the Surveyor, Council Offices, Alsager, Stoke-on-Trent, on receipt of Three Guineas, and returnable on receipt of a bona-fide Tender.

Tenders are to be delivered to the undersigned not later than 9th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. HEAP,  
Clerk of the Council.

**BEAUMARIS TOWN COUNCIL,**  
ANGLESEY.

## GREEN EDGE, BEAUMARIS.

## CONTRACT NO. 7.

TENDERS are invited for the CARRYING OUT of the FOLLOWING WORKS—

- (a) External Redecoration of 1, 3, 4 and 5.
- (b) External Re-rendering of 3, 4 and 5.
- (c) Overhaul of Roof, etc., 1, 3, 4 and 5.
- (d) Repair and Modernisation of 3, 4 and 5.
- (e) Green Edge.

Specification and Form of Tender may be obtained from JOHN S. GEE, A.A.L.P.A., Borough Surveyor, Municipal Buildings, Beaumaris, Anglesey.

Tenders, in plain sealed envelopes, are to be delivered to the undersigned not later than the 13th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. HUGH THOMAS,  
Town Clerk.

Town Clerk's Office,  
Municipal Buildings,  
Castle Street,  
Beaumaris.

4th August, 1961.

## CONTRACTS

**BOROUGH OF HEYWOOD.**  
ERCTION OF WROUGHT-IRON RAILINGS.

TENDERS are invited for the SUPPLY and FIXING of 831 lin. yd. of 4ft. high WROUGHT-IRON RAILINGS, together with Gates, at BURY AND ROCHDALE OLD ROAD (B.6222).

Contract documents may be obtained from A. MIDGTON, Esq., M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Heywood, on payment of a deposit of One Guinea, to be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders must reach the undersigned not later than the First Post on SATURDAY, 9th September, 1961, in the envelope provided and endorsed "Wrought-Iron Railings."

The Council does not bind itself to accept the lowest or any Tender.

W. R. PARKER,  
Town Clerk.

Municipal Buildings,  
Heywood.  
3rd August, 1961.

**CITY OF BIRMINGHAM.**  
TO PUBLIC WORKS CONTRACTORS.

The HOUSEBUILDING COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of ROADS and Garage Accesses on WELSH HOUSE FARM HOUSING ESTATE, Part III, Harborne.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained from the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Plans for the work can be seen in Room 339, Baskerville House.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 30th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,  
Town Clerk.

Council House,  
Birmingham, 1.

**CITY OF BIRMINGHAM.**  
TO PUBLIC WORKS CONTRACTORS.

The PUBLIC WORKS COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the RECONSTRUCTION of GENNERS LANE (Part), BARTLEY GREEN, between Jiggins Lane and Cromwell Lane.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained from the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Plans for the work can be seen in Room 339, Baskerville House.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.21), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 30th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,  
Town Clerk.

Council House,  
Birmingham, 1.

**CITY OF BIRMINGHAM.**  
TO PUBLIC WORKS CONTRACTORS.

The CHILDREN'S COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for SUPPLYING, LAYING and MAINTAINING approx. 3,800 sq. yd. of BITUMINOUS MACADAM WEARING COURSE and approx. 340 tons of GRADED TARRED MACADAM BASE COURSE at ERDINGTON COLLEGE HALLS, ERDINGTON, and SHENLEY FIELDS HOMES, NORTHFIELD.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained on payment of £2 2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Further details may be obtained from Room 339, Baskerville House.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.79), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 30th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,  
Town Clerk.

Council House,  
Birmingham, 1.

**BEVERLEY RURAL DISTRICT COUNCIL.**  
WOODMANSEY SEWERAGE SCHEME.

## CONTRACT NO. 5.

## HOUSE CONNECTIONS.

TENDERS are invited for the CONSTRUCTION of approx. 3,700 lin. yd. of 4in. and 6in. dia. STONEWARE CONNECTIONS, with Inspection Chambers, at Woodmansey, in the Beverley Rural District, in the East Riding of Yorkshire.

Contractors wishing to tender for these works should apply for the documents to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Beverley Rural District Council, which deposit is to be refunded upon receipt of a bona-fide Tender and the return of all the documents.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Noon on 1st SEPTEMBER, 1961.

G. H. LEWIS,  
Clerk of the Council.

The Cables,  
65 Lairgate,  
Beverley.

## CONTRACTS

BOROUGH OF TAUNTON.  
WATER DEPARTMENT.

## PRIORSWOOD ROAD-DURSTON TRUNK MAIN.

**FIXED-PRICE TENDERS** are invited for the LAYING of APPROX. 7,100 YD. of 9in. and 6in. dia. SPUN-ON PIPES with Tyton Joints.

Form of Tender, Specification and Bills of Quantities may be obtained from W. J. WONNACOTT, M.I.C.E., Engineer and Manager, Flook House, Station Road, Taunton, on payment of a deposit of Two Guineas (by cheque only), payable to the Taunton Corporation.

Tenders must be sent to me not later than 10 a.m. on WEDNESDAY, 20th September, 1961.

K. A. HORNE,  
Town Clerk.

Municipal Buildings,  
Taunton, Som.

BOROUGH OF HEMEL HEMPSTEAD.  
DEMOLITION OF WATERWORKS BUILDING,  
MARLOWES, ETC.

**TENDERS** are invited for the DEMOLITION of the EXISTING WATERWORKS BUILDING, Marlowes, Hemel Hempstead, together with the House known as Sothcote, in Bath Street.

The Specification and Form of Tender may be obtained from A. H. TURNER, A.M.I.C.E., Borough Engineer, High Street, Hemel Hempstead, Herts., at whose Office the General Conditions of Contract and Plan may be inspected.

Tenders, in plain sealed envelopes endorsed "Tender for Demolition—Waterworks," bearing no name or indication of sender, must be delivered to me not later than 12 Noon on THURSDAY, the 24th August, 1961.

C. W. G. T. KIRK,  
Town Clerk.

Town Hall,  
Hemel Hempstead,  
Herts.  
August, 1961.

BOROUGH OF HESTON & ISLEWORTH.  
RESURFACING IN HOT ROLLED ASPHALT.

**TENDERS** are invited for HEATING, PLANING and RESURFACING TWICKENHAM ROAD, Isleworth, from Percy House to Bush Corner, approx. 7,000 sq. yd.

Forms of Tender, Specification and Bill of Quantities may be obtained from the Borough Engineers' Department, 88 Twickenham Road, Hounslow, on deposit of £2 2s. (returnable for bona-fide Tenders submitted and not subsequently withdrawn).

Tenders, in endorsed envelopes supplied, not indicating the tenderer, must be received by me by 10 a.m. 5th SEPTEMBER, 1961.

The Council are not bound to accept any Tender.

D. MATHIESON,  
Town Clerk.

Town Hall,  
Hounslow, Middx.

## BARNOLDSWICK URBAN DISTRICT COUNCIL.

## ASPHALT SURFACING.

**TENDERS** are invited from experienced contractors for SURFACING approx. 3,150 square yd. of SETT PAVED CARRIAGeway with Hot Rolled Asphalt. Specification and Form of Tender can be obtained from the Engineer and Surveyor, P. TURNER, A.M.I.Mun.E., 32 Church Street, Barnoldswick, Colne, Lancs. (Telephone No. 2138.)

Tenders, in plain sealed envelopes endorsed "Asphalt Surfacing," should be sent to the undersigned not later than Noon on SATURDAY, 2nd September, 1961.

The Council do not bind themselves to accept the lowest or any other Tender.

F. WILKINSON,  
Clerk of the Council.

Town Hall,  
Barnoldswick,  
Colne, Lancs.

## BUSHEY URBAN DISTRICT COUNCIL.

## HIGHWAYS ACT, 1959.

## MAKING-UP OF CHESTNUT RISE.

**TENDERS** are invited for the CONSTRUCTION of 1,240 square yd. of 3in. TARMAcadAM CARRIAGE-WAY and 500 square yd. of Taracadam Footpath, and incidental works in connection therewith, at Chestnut Rise, Bushey, Herts.

Plans and Conditions of Contract may be inspected, and Forms of Tender, Specification and Bills of Quantities obtained from the Engineer and Surveyor, Mr. G. EVERATT (address below) on payment of cheque value £2 2s. (returnable to the Council), refundable on receipt of a bona-fide Tender.

Tenders, in plain envelopes endorsed "Making-up of Chestnut Rise," must be received by me not later than Noon on THURSDAY, 14th September, 1961.

The Council do not bind themselves to accept the lowest or any other Tender.

G. EVERATT,  
Clerk of the Council.

Council Offices,  
Rudolph Road,  
Bushey, Herts.

## DROYLSDEN URBAN DISTRICT COUNCIL.

## CLASS I AND DISTRICT ROADS.

**TENDERS** are invited for the SUPPLY of MATERIALS and EXECUTION of the UNDERMENTIONED WORKS on CLASS I and DISTRICT ROADS within the Urban District:

(a) Construction of three Concrete 'Bus Bays'.  
(b) Laying of new Concrete Kerbs and new Concrete Flags, together with Re-laying of existing Steel Kerbs.

(c) Laying of approx. 9,000 sq. yd. of Bitumen Macadam to form Wearing Course on existing carriageway construction.

Specification, Bill of Quantities and Form of Tender may be obtained on application to H. H. EMERY, M.I.Mun.E., Engineer and Surveyor, Council Offices, Droylsden.

Tenders for each Contract, in plain sealed envelope and individually endorsed: (a) "Concrete 'Bus Bays,' (b) 'Footpath Works,' (c) 'Carpenting Programme,'" to be delivered to me not later than 9 a.m. on WEDNESDAY, 26th September, 1961.

The Council does not bind itself to accept the lowest or any Tender, and reserves the right to accept a Tender for the whole or any part of the works.

G. S. HEPTON,  
Clerk of the Council.

Council Offices,  
Droylsden,  
Lancs.

## CONTRACTS

BOROUGH OF SOUTHGATE.  
RESURFACING OF HEDGE LANE, A.111.  
CONTRACT NO. 1720.

**TENDERS** are invited from specialist firms for the PROVISION and LAYING of a 1½in. thick WEARING COURSE of HOT-ROLLED ASPHALT SURFACING in accordance with B.S.S. 5942:1958.

The approximate area of Carrigeway involved is 3,600 sq. yd., and is the section between Firs Lane and Connaught Gardens. The Contract will also include the Removal of the Existing Wearing Course by Hessian, Reinforcement, and Reinforcement of approximately 1,200 linear ft. of 3in. thick Asphalt Basecourse, which has failed over the joints in the existing concrete foundation, together with other ancillary works necessary.

The contractors wishing to Tender should apply to the Borough Engineer and Surveyor for a copy of relevant documents.

Sealed Tenders must be received by the undersigned not later than 9 a.m. on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GORDON H. TAYLOR,  
Town Clerk.

Town Hall,  
Palmer's Green,  
London, N.13.  
August, 1961.

BOROUGH OF SOUTHGATE.  
RECONSTRUCTION OF POWYS LANE, B.1452.  
CONTRACT NO. 1719.

**TENDERS** are invited from specialist firms for EXCAVATING in the EXISTING CARRIAGEWAY to a depth of approximately 18in. and the PROVISION and LAYING of an 8in. thick 15½t. LEAN-MIX CONCRETE FOUNDATION and TWO-COURSE HOT-ROLLED ASPHALT SURFACING, 3in. thick, in accordance with B.S.S. 5942:1958.

The approximate area of Carrigeway involved is 3,800 sq. yd., and is the section between Aldermans Hill and Wilmer Way.

The contractors wishing to Tender should apply to the Borough Engineer and Surveyor for a copy of relevant documents.

Sealed Tenders must be received by the undersigned not later than 9 a.m. on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GORDON H. TAYLOR,  
Town Clerk.

Town Hall,  
Palmer's Green,  
London, N.13.  
August, 1961.

CITY OF STOKE - ON - TRENT.  
CITY SURVEYOR'S DEPARTMENT.  
SUPPLY OF PLANT.

**TENDERS** are invited for the SUPPLY of the UNDERTIONED ITEMS OF PLANT:

- (a) Two Diesel Rollers, with Equipment, to weigh 10 tons each.
- (b) Mobile Sewage Pumps, with capacities between 25,000 and 150,000 gallons per hour, against a maximum head of 100ft., together with Accessories.

Forms of Tender and further particulars may be obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent.

Sealed Tenders, with detailed Specifications and Illustrations, to be delivered in the envelope to be supplied, to the undersigned, at the Town Hall, Stoke-on-Trent, not later than Noon on THURSDAY, 31st August, 1961.

HARRY TAYLOR,  
Town Clerk.

## EAST BARNET URBAN DISTRICT COUNCIL.

## CONTRACT NO. 953.

## PUBLIC LIGHTING—GREAT NORTH ROAD, A.1000.

**FIXED-PRICE TENDERS** are invited from experienced contractors for the FOLLOWING WORK, to be undertaken under one contract, in two stages:

- (a) The Removal of 55 existing Mercury Vapour Lanterns and the Uprooting of 62 Steel Trolley Poles.
- (b) Supply and Fitting of 60 Lanterns for 200-Watt Sodium Vapour Lamps, with Control Gear and Lamps (all specified patterns).
- (c) All the necessary Electrical Work in the wiring (other than Jointing and Servicing) of the columns and lanterns in (a) and (b) above.

Forms of Tender, Specification and Bills of Quantities may be obtained from the ENGINEER AND SURVEYOR, Town Hall, Station Road, New Barnet, Herts., on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders, sealed in the envelope provided, must be received not later than SATURDAY, 16th September, 1961.

The lowest or any Tender will not necessarily be accepted.

ORPINGTON URBAN DISTRICT COUNCIL.  
KEVINGTON ESTATE.(a) SURFACE WATER DRAINAGE WORKS.  
(b) CARRIAGEWAYS AND FOOTWAYS.

**TENDERS** are invited for the LAYING of approximately 430 lin. yd. of LAND DRAINS in POROUS CONCRETE and SALT GLAZED STONEWARE PIPES, and ancillary Works, and for the LAYING of EXISTING ACCESS ROAD by the LAYING of approximately 140 sq. yd. of 6in. VIBRATED CONCRETE CARRIAGEWAY and 250 sq. yd. of SLAB PAVING.

General Conditions of Contract and Drawings may be inspected at my office by arrangement, and the Specification, Bills of Quantities, etc., obtained on application to me.

Tenders, in the envelope provided, must be delivered to the Clerk of the Council, Council Offices, Crofton Road, Orpington, not later than 9 a.m. on WEDNESDAY, 6th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

L. W. FREEMAN,  
Engineer and Surveyor.

Civic Offices,  
The Walnuts,  
High Street,  
Orpington,  
Kent.

## CONTRACTS

## CONTRACTS

COUNTY BOROUGH OF READING.  
BULMERSHE HOUSING ESTATE—STAGE 1 (PART)—FOOTWAYS AND VERGES.

**TENDERS** are invited for CONSTRUCTION of 4,200 sq. yd. (approx.) of FOOTWAYS, together with Verges and incidental works.

General Conditions and Drawings may be inspected, and Bill of Quantities, etc., obtained for fee of Two Guineas, which will be paid to Reading Corporation, at Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Fee refunded for bona-fide Tenders.

Tenders to be delivered to TOWN CLERK, Town Hall, Reading, by 12 Noon on 4th SEPTEMBER, 1961.

No Tender considered unless enclosed in plain sealed envelope endorsed "Bulmershe Stage 1 (Part)—Footways and Verges," but bearing no indication of sender.

The Corporation do not bind themselves to accept any Tender.

CITY OF WORCESTER.  
WARNDON HOUSING ESTATE—SITE COMPLETION.  
PART II, STAGE 1.

**FIXED-RATE TENDERS** are invited for the ABOVE WORKS, which comprise the Surfacing of approx. 14,500 sq. yd. of existing Stone Pitched Roads, the Laying of 9,200 sq. yd. of Clay Pavement and 15,000 sq. yd. of Turf, together with other incidental works.

Documents obtainable from the City Engineer and Surveyor, 22 Bridge Street, Worcester, upon payment of a Two Guinea deposit, which will be returned upon receipt of a bona-fide Tender.

Tenders, in the envelope provided, to be posted to reach the undersigned not later than THURSDAY, 14th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

BERTRAM WEBSTER,  
Town Clerk.

Guildhall,  
Worcester.

## BOGNOR REGIS URBAN DISTRICT COUNCIL.

## ROAD AND SEWER WORKS—SOUTH BERSTED HOUSING SITE.

**FIXED-PRICE TENDERS** are invited for the CONSTRUCTION of 1,200 LINEAR YARDS of Roads and Sewer Works on the South Bersted Housing Site—Link Road (126 lin. yd.).

Form of Tender and other documents may be obtained from the Engineer and Surveyor, Town Hall, Bognor Regis, on payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes endorsed "South Bersted Housing Site—Link Road," should be delivered to the undersigned not later than 12 Noon on MONDAY, the 4th September, 1961.

R. W. J. HILL,  
Clerk of the Council.

Town Hall,  
Bognor Regis.

## URBAN DISTRICT COUNCIL OF BRAINTREE AND BOCKING.

## ROAD IMPROVEMENT TO THISTLEY GREEN ROAD.

**TENDERS** are invited for the ROAD IMPROVEMENT, consisting of the following approx. quantities: 680 lin. yd. 5in. 10in. Precast Concrete Kerb: 1,230 sq. yd. 6in. Reinforced Concrete Carrigeway: 2,000 sq. yd. Bituminous Concrete and 1,000 sq. yd. Bituminous Slag 1in. thick: 270 lin. yd. 6in. Sewer and Gully Connections, together with Manholes and Gullies: 1,430 sq. yd. 3in. Concrete Footways; other ancillary works.

Specification, Bill of Quantities and Form of Tender may be obtained from the Surveyor at the Town Hall, Braintree, on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender.

Tender, Specification and Bill of Quantities must be returned in the separate envelopes provided, before Noon on FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

W. BALSON,  
Clerk of the Council.

## COWES URBAN DISTRICT COUNCIL.

## DIVERSION AND RE-LAYING OF FOUL SEWER—WOODVALE, GURNARD.

**TENDERS** are invited for the LAYING of 400yds. of 12in. FOUL SEWER PIPE, Concrete Pipes with Flexible Joints along the EAST SIDE of the WOODVALE STREAM, Gurnard, together with Concrete Manholes and other appurtenant works.

Forms of Tender, Bills of Quantities, Specifications and Drawings may be obtained from the Surveyor and Engineer, Northwood House, Cowes, on payment of a deposit of £2 2s., which will be refundable on receipt of a bona-fide Tender and all documents.

Tenders, in plain sealed envelopes endorsed "Woodvale Sewer," must be delivered to the undersigned not later than Noon, FRIDAY, 8th September, 1961.

F. W. HEFFORD,  
Clerk of the Council.

Northwood House,  
Cowes, I.W.  
8th August, 1961.

## HORNCHURCH URBAN DISTRICT COUNCIL.

## VERGE WORKS—HACTON LANE: AND LEVELLING OF LAND ADJOINING THE RIVER INGREBOURNE.

**TENDERS** are invited for the ABOVE-MENTIONED WORKS, which comprise briefly the FOLLOWING:

- (1) Approx. 1,650 cu. yd. of Excavation to remove Site Levels and Gradient, Tipping and Seeding, total area of 9,000 sq. yd.

- (2) Construction of 420 sq. yd. of Hardcore Foundation to two Car Parking areas, including Hoggins Blinding and Surface Dressing:

- (3) Levelling, by grading existing surface to even contours, an approximate area of land adjoining the River Ingrebourne.

The Specification and Bills of Quantities may be obtained from the Office of the Engineer and Surveyor, Council Offices, Billet Lane, Hornchurch, Essex, upon payment of a deposit of Two Guineas which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The documents must be returned to the undersigned not later than Noon on FRIDAY, 25th August, 1961, sealed in the envelope which shall be provided, and which shall bear no indication of the person(s) tendering.

P. L. COX,  
Clerk of the Council.

Council Offices,  
Billet Lane,  
Hornchurch,  
Essex.

August 17 1961

## CONTRACTS

## BOROUGH OF RUGBY.

CARRIAGEWAY AND FOOTWAY  
RESURFACING WORKS, 1961-62.

The Corporation invite TENDERS for RESURFACING WORKS during 1961-62. Approximate areas involved are 27,000 sq. yd. of Heating and Plant Areas, 10,000 sq. yd. Driveway Bitumen Macadam, Carrigeway Surfacing, and 16,000 sq. yd. of Hot-rolled Asphalt Surfacing, together with incidental Kerbing and other work.

Tenders, in the envelope provided, must be received by 12 Noon on THURSDAY, 7th September, 1961. Bills of Quantities may be obtained from the Borough Surveyor, Town Hall, Rugby, on deposit of £2 2s., which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The Corporation do not undertake to accept the lowest or any Tender.

T. L. DUFFY,  
Town Clerk.

## BOROUGH OF FAVERSHAM.

## BRENTS REDEVELOPMENT AND ABBOTS ROAD GARAGE SITES.

TENDERS are invited for the LAYING of CONCRETE GARAGE BASES and FORECOURTS, etc., on the BRENTS SITES (approximate areas 1,750 sq. yd. and 1,250 sq. yds. respectively).

Form of Tender and further details are obtainable from the Borough Surveyor, Municipal Offices, Faversham.

Tenders to be received by Noon on MONDAY, 11th September, 1961.

F. G. BISHOP,  
Town Clerk.

Municipal Offices,

Faversham.

4th August, 1961.

## THE RURAL DISTRICT COUNCIL OF GODSTONE.

## MILL LANE PLAYING FIELD—HURST GREEN, OXTED.

TENDERS are invited for RESEEDING the North of the MILL LANE PLAYING FIELDS, Hurst Green, which has an area of approx. 4 acres, including ancillary works in connection therewith.

Tenders, in plain sealed envelopes, endorsed in accordance with the instructions given in the documents, addressed to the undersigned, and delivered at these Offices not later than Noon on WEDNESDAY, 23rd August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

M. HAWORTH,  
Clerk of the Council.

Council Offices,

Oxted, Surrey.

## HIGHWORTH RURAL DISTRICT COUNCIL.

## PROPOSED WATER MAIN—BROAD HINTON TO GADBOURNE.

The Council invites TENDERS for the CONSTRUCTION of approximately 1,970yd. of 4in. diameter SPUN-IRON WATER MAIN, together with the DEMOLITION of an EXISTING PUMPING STATION, and incidental Works.

Contractors wishing to Tender should submit applications to the Engineer and Surveyor, 17 Bath Road, Swindon, together with a deposit of Two Guineas, which will be returned on receipt of a bona-fide Tender.

The relevant documents, together with instructions for Tenders, will be forwarded as soon as possible. The Council does not bind itself to accept the lowest or any Tender.

W. S. G. MILLS,  
Clerk of the Council.

Council Offices,

Bath Road,

Swindon,

Wiltshire.

LODDON RURAL DISTRICT COUNCIL.  
SEWERAGE OF ELLINGHAM AND GILLINGHAM.

TENDERS are invited on a Fixed-price Basis from experienced public works contractors for the LAYING of approx. 2,350 lin. yd. of 6in. dia. SEWERS at ELLINGHAM and 2,840 lin. yd. at GILLINGHAM, together with the necessary Manholes, Pumping Mens, Pumping Stations, Sewage Disposal Works, and other contingent works, in both parishes.

Applications for tendering documents should be made to the Council's Consulting Engineers, MESSRS. W. & H. HERBERT BATEMAN AND PARTNERS, Halifax House, 10, St. John's Street, London, N.W. 1, before SATURDAY, 26th August, 1961, and should be accompanied by a deposit cheque for Five Guineas, payable to the Council, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. The Drawings may be inspected by appointment at the Technical Office of the Consulting Engineers.

Sealed Tenders in the form provided in the Bill of Quantities, and accompanied by the Quantities priced in ink, must be submitted to the undersigned, in a plain envelope endorsed "Ellingham and Gillingham Sewerage," not later than Noon on THURSDAY, 28th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. A. GORHAM,  
Clerk of the Council.

Farthing Green House,

Loddon,

Norwich, NOR 23W.

8th August, 1961.

## THORNBURY RURAL DISTRICT COUNCIL.

## FISHERS ROAD, BERKELEY ROAD EXTENSION, OXFIELD WAY, SHARPNESS—COMPLETION OF ROADWORKS.

The Council invite TENDERS for the ABOVE-MENTIONED WORKS.

Tender documents may be obtained from the Council's Architects, RAINGER, ROGERS AND SMITHSON, FF.A.A.R.I.B.A., Glenmore Lodge, Wellington Square, Cheltenham, Glos., not later than 26th AUGUST, 1961. Applications should be accompanied by a fee of £3 3s. which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The Architects will advise date when Tenders must be submitted, which must be in sealed envelopes endorsed "Roadworks — Berkeley/Sharpness," and addressed to the undersigned.

JOHN L. JUDD,  
Clerk of the Council.

Stokefield House,

Castle Street,

Thornbury, Bristol.

8th August, 1961.

## CONTRACTS

## BOROUGH OF RUGBY.

CARRIAGEWAY AND FOOTWAY  
RESURFACING WORKS, 1961-62.

The Corporation invite TENDERS for RESURFACING WORKS during 1961-62. Approximate areas involved are 27,000 sq. yd. of Heating and Plant Areas, 10,000 sq. yd. Driveway Bitumen Macadam, Carrigeway Surfacing, and 16,000 sq. yd. of Hot-rolled Asphalt Surfacing, together with incidental Kerbing and other work.

Tenders, in the envelope provided, must be received by 12 Noon on THURSDAY, 7th September, 1961. Bills of Quantities may be obtained from the Borough Surveyor, Town Hall, Rugby, on deposit of £2 2s., which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The Corporation do not undertake to accept the lowest or any Tender.

T. L. DUFFY,  
Town Clerk.

## CONTRACTS

## COUNTY BOROUGH OF NORTHAMPTON.

TENDERS, returnable by 4th SEPTEMBER, are invited for the SUPPLY of DUSTINS. Particulars from Borough Engineer, Guildhall, Northampton.

C. E. VIVIAN ROWE,  
Town Clerk.

## CONTRACTS

## BOROUGH OF ILFORD.

## WOODFORD AVENUE SURFACE WATER SEWER.

TENDERS are invited from contractors with considerable experience in large drainage works, for the LAYING of approx. 480yd. of 60in. dia. ARMCO PIPE, 540yd. of 4ft. 3in. x 3ft. PRECAST CONCRETE PIPE, 2,000yd. of CONCRETE TUBES from 48in. to 18in. dia. for the CONSTRUCTION of a RIVER OUTFALL, and ancillary works.

Form of Tender, Special Conditions of Contract, Specification and Bills of Quantities may be obtained from, and the Drawings and General Conditions of Contract inspected at the office of the Borough Engineer during normal office hours (5-day week), on payment of a deposit of Two Guineas which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelope bearing no name or mark indicating the tenderer, and endorsed "Tender for Woodford Avenue Surface Water Sewer," accompanied with the names of Authorities for whom the tenderer has carried out works of a similar nature, must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m., TUESDAY, 26th September, 1961.

B. R. RICHARDS, A.M.I.C.E.,  
County Engineer and Surveyor.Roads and Bridges Dept.,  
County Hall, Carmarthen.

## CONTRACTS

## CARMARTHENSHIRE COUNTY COUNCIL.

## BRECON-LLANDOVERY TRUNK ROAD, A.40.

PROPOSED NEW BRIDGE AND ROAD WIDENING  
AT GWYDDERIG BRIDGE, LLANDOVERY.

TENDERS are invited for the EXECUTION of the ABOVE WORKS, by two separate Contracts. The bridge is situated within approx. two miles of Llandovery.

**CONTRACT NO. 1**—Comprising Earthworks, Surface Water Drainage, Fencing, and Carrigeway constructed with a Base of Lean-Mix Concrete and Single Course Bitumen Macadam Surfacing. Total length of approx. 270yd.

**CONTRACT NO. 2**—Comprising the Demolition of the existing Temporary Bridge, Masonry Arch Bridge, and the Erection of a new Temporary Timber Bridge, and Construction of a new Bridge in Reinforced Concrete approx. 44ft. skew span, and 40ft. beam. Total width to be 12 ft. with Approaches and other appurtenant works: total length of scheme approx. 315yd.

Specifications, Bill of Quantities, Conditions of Contract and Form of Tender may be obtained from the undersigned on payment of a deposit of £2 for each Contract, which will be returned on receipt of a bona-fide Tender which is not subsequently withdrawn.

Plans may be inspected during normal office hours at the undermentioned Office.

Two tenders (two separate contracts), in plain sealed envelopes not bearing any name or mark indicating the sender, and endorsed "Contract No. 1" and "Contract No. 2," respectively, must be delivered to W. S. THOMAS, Clerk of the County Council, County Hall, Carmarthen, not later than THURSDAY, 14th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. R. RICHARDS, A.M.I.C.E.,  
County Engineer and Surveyor.Roads and Bridges Dept.,  
County Hall, Carmarthen.

August, 1961.

## BOROUGH OF DAGENHAM.

## EXTENSION TO MUNICIPAL PREMISES.

Building contractors possessing a substantial organisation and who are willing to TENDER for the ERECTION of the ABOVE are invited to submit their names and give full details. From these names, a panel of contractors will be chosen and provided with Tender documents, which are expected to be available by the end of August, 1961.

The contractor will be required to erect a Three-storey Steel-framed Office Block with a Connecting Bridge to the existing building, and sundry Internal Alterations to the existing premises.

Applications to reach the Borough Surveyor not later than 25th AUGUST, 1961.

KEITH LAUDER,  
Town Clerk.CIVIC CENTRE,  
Dagenham.

## BOROUGH OF MORECAMBE AND HEYSHAM.

## PRIVATE STREET IMPROVEMENTS.

TENDERS are invited for the MAKING-UP of the UNDERMENTIONED PRIVATE STREETS in the Borough:

Low Lane (North)—80 lin. yd.

Low Lane (South)—570 lin. yd.

Low Lane (South)—173 lin. yd.

Plans may be inspected, and Bills of Quantities, Specifications and Form of Tender (which must be fully priced) obtained from the Borough Engineer and Surveyor, Office (deposit 10s. per street, returnable on receipt bona-fide Tender and all documents).

Deposit cheques to be made payable to Morecambe and Heysham Corporation.

Tender to be delivered, endorsed "Tender for Private Street Works," to the undersigned by 9 a.m., MONDAY, 4th September.

C. E. BOTTOMLEY,  
Town Clerk.

2nd August, 1961.

## CITY AND COUNTY OF NEWCASTLE UPON TYNE.

## LONGBENTON HOUSING ESTATE—UNIT NO. 3.

## GARAGE SITES—ACCESS ROADS AND APRONS.

The HOUSING COMMITTEE of the City Council is prepared to receive TENDERS for the CONSTRUCTION and MAINTENANCE of approx. 2,000 sq. yd. of 6in. REINFORCED CONCRETE PAVING to ACCESS ROADS and APRONS, together with ancillary works at FIVE GARAGE SITES on the ABOVE-NAMED ESTATE.

Bills of Quantities and Form of Tender may be obtained, and the Drawings inspected at the Office of the City Engineer, Town Hall, Newcastle upon Tyne, to whom sealed Tenders, enclosed in the envelope provided, are to be delivered not later than 10 a.m. on THURSDAY, 14th September, 1961.

Tenders, in the official envelope provided for that purpose, and such envelope must not bear any name or mark indicating the sender.

The Committee does not bind itself to accept the lowest or any Tender.

JOHN ATKINSON,  
Town Clerk.Town Hall,  
Newcastle upon Tyne.

## URBAN DISTRICT COUNCIL OF KIDSBOURNE.

## PROPOSED RECONSTRUCTION OF SEWERS AT NEWCHAPEL.

TENDERS are invited for the LAYING of approx. 600yd. 6in. and 12in. CONCRETE PIPES, together with Manholes and other ancillary works.

Tender documents may be obtained from the Engineer and Surveyor, Town Hall, Kidsbourne, Staffs., on payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide Tender and the return of all documents.

Tenders, in the envelope provided, endorsed "Sewer—High Street, Newchapel," are to be returned to the undersigned not later than Noon on WEDNESDAY, 20th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. M. WARREN,  
Acting Clerk of the Council.Town Hall,  
Kidsbourne,  
Staffs.

August, 1961.

MANCHESTER CORPORATION  
WATERWORKS.DUNHAM PARK RESERVOIR—INLET VALVE  
HOUSE—CONTRACT D.P.Z.

TENDERS are invited for the MANUFACTURE, SUPPLY and DELIVERY of 24in. and 18in. dia. ELECTRICALLY OPERATED SLICE VALVES, with Operator, Gear and Accessories; 24in., 18in., 12in., 10in. dia. MANUALLY OPERATED SLICE VALVES, and 24in. and 18in. dia. REFLUX VALVES required for control purposes at the ABOVE SITE.

Tender Forms (returnable by 2nd OCTOBER, 1961), Schedule and Conditions, etc., obtainable from the SECRETARY, Waterworks Offices, Town Hall, Manchester, 2.

August 17 1961

## THE CONTRACT JOURNAL

SUPPLEMENT

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## CONTRACTS

## BRECONSHIRE COUNTY COUNCIL.

TENDERS are invited for the SUPPLY or SUPPLY AND LAVING OF HOT-ROLLED ASPHALT to: (a) LLANFARNA, Brecon (18,500 sq. yds.); (b) KING STREET, Brynmawr (15,700 sq. yds.). Particulars from County Surveyor, Watton, Brecon. Closing date: 31st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. M. S. WELLS,  
Clerk of the County Council.

## NOTTINGHAMSHIRE COUNTY COUNCIL.

TENDERS are invited for the SUPPLY of the FOLLOWING SUPPLIES and ARTICLES to various Child Welfare Centres, Day Nurseries, School Clinics, Dental Clinics, Ambulance Stations and other premises within the County for a period of 12 months commencing 1st November, 1961.

Medical and Sundry Supplies.  
Surgical Appliances and Instruments.

Nursing Equipment and Appliances, including Commodes and Wheel Chairs.

Rubber Alloys, etc.

Surgical Dressings and Plasters.

Maternity Outfits and Pads.

Cod Liver Oil Products.

Dental Consumable Stores and Instruments.

Particulars and Form of Tender and Conditions of Contract may be obtained from the County Medical Officer, Shire Hall, Nottingham. Completed Tenders, in the envelopes to be supplied, should be received by me not later than 10 a.m. on FRIDAY, 8th September, 1961.

A. R. DAVIS,  
Clerk of the County Council.

## WANDSWORTH BOROUGH COUNCIL.

## SEWER WORKS.

Contractors wishing to TENDER for: (a) CONSTRUCTION of 1,300yd. STORM RELIEF SEWER, and (b) CULVERTING of 290yd. of WATERCOURSE should submit names to me by 23rd AUGUST, 1961, giving names of two technical and two financial referees.

Tender documents will be issued to selected contractors in due course.

J. NOEL MARTIN,  
Town Clerk.

## BOROUGH OF BIDEFORD.

## TRACK-MARSHALL CRAWLER TRACTOR.

TENDERS are invited for the SUPPLY and DELIVERY of a TRACK-MARSHALL REFUSE CONTROL DIESEL CRAWLER TRACTOR.

Particulars may be obtained from H. J. DENNE, A.M.I.C.E., Borough Surveyor, Municipal Buildings, Bideford.

Tenders are to be sent in plain sealed envelopes, bearing no mark to indicate the sender, endorsed "Tender for Crawler Tractor," and are to be received by the undersigned not later than 12 Noon, FRIDAY, 18th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

L. B. GALLIFORD,  
Town Clerk.

Municipal Buildings,  
Bideford,  
Devon.

## BOROUGH OF SURBITON.

## FENCING AT FISHPONDS ESTATE.

TENDERS are invited for the FENCING at FISHPONDS ESTATE, in accordance with the Plans, Specification, Bill of Quantities and General Conditions of Contract, which may be obtained from the Office of R. THIRLWAY, M.I.Mun.E., M.I.Struct.E., Borough Engineer and Surveyor, Council Offices, Ewell Road, Surbiton, Surrey.

Tenders on the form provided, enclosed in the endorsed envelope provided, and bearing no name or mark indicating the sender, must be delivered to the undersigned and received by him not later than FRIDAY, 13th September, 1961, at 5 p.m.

The Corporation do not bind themselves to accept the lowest or any Tender.

JOHN H. A. CRUNDELL,  
Town Clerk.

## BOROUGH OF WEMBLEY.

## COLLECTION AND DISPOSAL OF BOILER ASHES.

The WEMBLEY BOROUGH COUNCIL invite TENDERS for the WEEKLY COLLECTION and DISPOSAL OF BOILER ASHES from VARIOUS DOMESTIC PREMISES within the Borough during the period 1st October, 1961, to 31st May, 1962.

The approximate output of ashes from these premises during the period is 48 tons per week.

Further details and Forms of Tender may be obtained from the Offices of the District Public Inspector, Alperton Lane, Wembley, Middlesex.

Tenders must be returned, duly completed, not later than Noon on SATURDAY, 2nd September, 1961, in a plain sealed envelope endorsed "Tender for Collection and Disposal of Boiler Ashes," and addressed to the undersigned at the Town Hall, Wembley.

The Council do not bind themselves to accept the lowest or any Tender.

N. CUMPSKY,  
Town Clerk.

## FRINTON AND WALTON URBAN DISTRICT COUNCIL.

## CONSTRUCTION OF GARAGE CROSSINGS.

TENDERS are invited for the CONSTRUCTION of GARAGE CROSSINGS of varying sizes in HIGHWAYS within the Urban District.

Specification, Schedule of Rates and Form of Tender can be obtained from, and Conditions of Contract inspected at, the Office of the Engineer and Surveyor, The Council House, Old Road, Frinton-on-Sea, on payment of Two Guineas which will be refunded on receipt of a bona-fide Tender and the return of all documents.

Tenders should be received by the undersigned not later than First Post on MONDAY, 11th September, 1961, in a plain sealed envelope bearing no indication of the sender and endorsed "Garage Crossings."

The Council do not bind themselves to accept the lowest or any Tender.

J. P. McLAIRNEY,  
Clerk of the Council.

The Council House,  
Frinton-on-Sea,  
8th August, 1961.

## THE CONTRACT JOURNAL

## CONTRACTS

## COUNTY BOROUGH OF SOUTHPORT.

The COUNCIL invite TENDERS for the ERECTION of TWO AGED PERSONS' DWELLINGS in Traditional Brick Construction, on the GRANTHAM CLOSE HOUSING SITE, Birkrigg.

The Bills of Quantities may be obtained from, and the Drawings and Conditions of Contract inspected at, the Borough Architect and Town Planning Officer's Department, 99/105 Lord Street, on payment of Two Guineas, which will be refunded on receipt of a bona-fide Tender.

Tenders to be delivered to the undersigned not later than 15th SEPTEMBER, 1961.

R. EDGAR PERRINS,  
Town Clerk.

Town Hall,  
Southport,  
27th July, 1961.

## CITY OF MANCHESTER.

TENDERS invited for ALTERATIONS to form SANITARY IMPROVEMENTS at LILY LANE SCHOOL, Moston.

Specification and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 31st AUGUST.

## CITY OF MANCHESTER.

## EXTENSION TO GORTON CEMETERY.

TENDERS are invited for the CONSTRUCTION of ROADS and DRAINS at GORTON CEMETERY.

Tender Forms to be returned by the 28th AUGUST, 1961, obtainable from the CITY SURVEYOR, Town Hall, Manchester, 2.

## URBAN DISTRICT COUNCIL OF URNSTON.

## TRAFFORD PARK RESEWERAGE SCHEME.

TENDERS are invited from contractors experienced in large sewerage schemes, for the CONSTRUCTION of some THREE MILES of SEWERS, sizes from 57in. dia. to 18in. dia., with manholes and auxiliary works, Stormwater Overflows, etc., and the Construction of a Sewage Pumping Station and Rising Main.

The work will be executed partially in open trench at depths of up to 30ft., and partially in heading, and includes a cofferdam crossing of the Bridgewater Canal.

Tenders are to reach me, in the official envelope, not later than Noon on the 20th SEPTEMBER, 1961, and applications for Contract documents should be made to the Engineer and Surveyor, Council Offices, Uttoxeter, Market Drayton, not later than the 28th AUGUST, 1961, accompanied by a deposit of £5 5s. which will ultimately be refunded if a bona-fide Tender is received by the due date and not subsequently withdrawn.

It is emphasised that Tenders will only be considered from firms experienced in this type of work, and a list of similar works recently executed should be submitted with the Tender.

L. WATKINS,  
Clerk of the Council.

Council Offices,  
Urnston,  
August, 1961.

## THE URBAN DISTRICT COUNCIL OF RUISLIP-NORTHWOOD.

## CLOSE BOARDED FENCING WORK.

TENDERS are invited for the SUPPLY and ERECTION of approx. 65 lin. yd. of 4ft. 6in. high and 200 lin. yd. of 6ft. high CLOSE BOARDED FENCING.

Particulars, obtainable from the Engineer and Surveyor, to be returned to the undersigned by WEDNESDAY, 13th September, 1961.

E. S. SAYWELL,  
Clerk of the Council.

Council Offices,  
Northwood, Middx.

## TAUNTON RURAL DISTRICT COUNCIL.

## WATER SUPPLY TO EASTERN PARISHES.

The Council invite FIXED-PRICE TENDERS from contractors having experience in similar work, for the LAYING of APPROX. 150 LIN. YD. OF 6IN. AND 4IN. DIAM. SPUN-IRON WATER MAINS and all ancillary works at WEST HATCHET, near Taunton.

Tender documents may be obtained from the Council's Consulting Civil Engineers, MESSRS. HARVEY, MCGLYNN AND HAYES, 8 Richmond Road, Exmouth, and after Friday, 25th September, 1961, and at whose Office Plans may be inspected by appointment during normal office hours.

Applications are to be accompanied by a cheque for £5 5s. made payable to the Taunton Rural District Council, and, in the case of contractors who have not previously tendered for work in the area, under the direction of the Engineers, by particulars of similar work executed, and the names and addresses of the Engineers concerned. The deposit will be refunded upon the receipt of a bona-fide Tender not subsequently withdrawn, and the return of all Tender documents.

Tenders are to be delivered in a plain sealed envelope endorsed "Eastern Parishes Water," but bearing no name or mark of identification, to the undersigned not later than 12 Noon on WEDNESDAY, 13th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

R. G. WORNELL,  
Clerk.

Council Offices,  
Mary Street House,  
Taunton, Som.

## UPPER STOUR VALLEY MAIN SEWERAGE BOARD.

## WHITTINGTON HALL FARM.

FIXED-PRICE TENDERS are invited for IMPROVEMENT WORKS at the Board's Whittington Hall Farm, Kinver, Staffs, consisting of Concreting and Covering Fold Yards, and Repairs and Alterations to Cow Sheds.

Drawings showing the extent of the work to be inspected by appointment at the Office of the Board, English O. C. ROWE, M.I.C.E., 10c, Hanley Road, Stourbridge, Worcs. Tender documents will be supplied on receipt of a deposit cheque for £2 5s. made payable to the Board, and returnable on receipt of a bona-fide Tender or the return of all documents.

Tenders are to be delivered to the undersigned not later than First Post on MONDAY, 11th September, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

W. H. TURNER,  
Clerk and Solicitor to the Board.

28 29 Wolverhampton Street,  
Dudley, Worcs.

## CONTRACTS

## DURHAM COUNTY COUNCIL.

## HIGHWAYS LABORATORY EQUIPMENT.

TENDERS are invited for the SUPPLY and INSTALLATION of one new 250-ton COMPRESSION and MACHINE, taking in part exchange an existing Compression Machine which will be present in use at the Highways Laboratory, River Waterside, Durham. The successful tenderer will be required to enter into a Contract which will provide for dismantling the existing machine and removing it from the site, and supplying and installing the new machine.

For application of Tender and Specification may be obtained from the County Surveyor, Aykley Heads, Durham, who will affix the necessary facilities for inspecting the existing equipment.

Tenders, in plain sealed envelopes endorsed "Laboratory Equipment," are to be delivered to the undersigned not later than Noon on 30th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. T. BROCKBANK,  
Clerk of the County Council.

Shire Hall,  
Durham,  
8th August, 1961.

## FLINTSHIRE COUNTY COUNCIL.

## COUNTY SURVEYOR'S DEPARTMENT.

## HIGHWAYS ENGINEERING PLANT AND EQUIPMENT.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING ITEMS:

(1) Mechanical Road Sweeper,  
(2) Petrol/Diesel Trucks, 30cwt. and 15cwt.

(3) 10cwt. Petrol Van.

(4) Light Diesel Wheeled Vehicle.

(5) Tractors, Diesel (Wheeled).

(6) Attachments for Tractors, viz.:—

(a) Forward Loading Shovels.

(b) Graders.

(c) Mowing Machines.

(7) Calidors.

(8) Diesel Roller, 8-ton.

(9) Snowploughs.

(10) Tractor Gritting Machines.

(11) at depth.

(12) Compressor Tools.

(13) Automatic Traffic Signals (Portable).

(14) Toolbox Trailers.

(15) Steel Roadforms.

(16) Diesel-oil Diesel Storage Tanks, with Pumps.

Forms of Tender can be obtained from the County Surveyor, Llwynegryn, Mold. Closing date, MONDAY, 18th September, 1961.

W. HUGH JONES,  
County Buildings,  
Mold.

Clerk of the County Council.

## BOROUGH OF WOOD GREEN.

## DEMOLITION CONTRACT.

TENDERS are invited for the DEMOLITION of Nos. 72 and 77-87, inclusive, ACACIA ROAD.

Copies of the Specification and Form of Tender may be obtained from the Borough Engineer at the address below.

Tender in plain sealed envelopes endorsed "Tender for Demolition Contract," but bearing no name or mark indicating the sender, must be delivered to the undersigned not later than 12 Noon on FRIDAY, 22nd September, 1961.

G. W. PLATER,  
Town Clerk.

Town Hall,  
Wood Green, N.22.

8th August, 1961.

## BOROUGH OF OLDBURY.

## CONTRACT NO. 61/4.

## CLASS "B" LIGHTING PROGRAMME, 1961-62.

TENDERS are invited on a Fixed-price Basis for the SUPPLY and ERECTION of approx. 154 CLASS "B" CONCRETE STREET LIGHTING COLUMNS and the Supply and Fitting of G.E.C. Post Top Lanterns, with Lamps, Time Switches, Control Gear, etc., in VARIOUS STREETS in the Borough.

Copies of the General Conditions of Contract and Drawings may be inspected at the Office of the Borough Engineer and Surveyor, Municipal Bank Chambers, Oldbury, from whom copies of the Bill of Quantities, Specification, and Form of Tender may be obtained on payment of a deposit of £2 2s. (cheques made payable to the Borough of Oldbury) which will be subsequently refunded.

Tenders are to be delivered to the undersigned, in the envelope provided, which should bear no name or mark indicating the sender, not later than Noon, TUESDAY, 9th September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

KENNETH PEARCE,  
Town Clerk.

Municipal Buildings,  
Oldbury,  
Birmingham.

## BOROUGH OF BERWICK-UPON-TWEED.

## ERECITION OF CHALETS.

FIXED-PRICE TENDERS are invited for the ERECTION of a BLOCK OF CHALETS at SPITTLE.

The Plan, Specification and Form of Tender may be obtained from the Borough Surveyor on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender and the return of the documents.

Tenders are to be delivered to me at my Office not later than Noon on MONDAY, 11th September, 1961, and must be enclosed in plain sealed envelopes without any name or mark indicating the sender, but endorsed on the outside "Tender for Chalets."

The Corporation do not bind themselves to accept the lowest or any Tender.

R. B. DAVISON,  
Town Clerk.

Municipal Buildings,  
Berwick-upon-Tweed.

## CITY OF STOKE - ON - TRENT.

## CITY ENGINEER AND SURVEYOR'S DEPARTMENT.

## SUPPLY OF HOSE FOR MOBILE SEWAGE PUMPS.

TENDERS are invited for the SUPPLY of approx. 100yd. of HOSE of various dimensions, together with Accessories, to be used with Mobile Sewage Pumps.

Further information and instructions for tendering from the City Surveyor, Town Hall, Stoke-on-Trent.

Tenders to be delivered to the undersigned not later than Noon on THURSDAY, 31st August, 1961.

HARRY TAYLOR,  
Town Clerk.

## THE CONTRACT JOURNAL

August 17 1961

## CONTRACTS

LONDON COUNTY COUNCIL.  
BESSBROUGH GARDENS IMPROVEMENT.

TENDERS are invited from contractors having considerable experience of large road construction works, for the CONSTRUCTION of a NEW ROAD and the WIDENING of EXISTING ROADS at BESSBROUGH GARDENS, Westminster.

For further information, Specifications, etc., and Drawings are obtainable from the Chief Engineer upon payment of £5 by crossed cheque or order made payable to the London County Council, which will be returned not only if a bona-fide Tender is submitted and not subsequently withdrawn.

Contract and other relevant documents may be inspected on personal application at Room 450D, County Hall, S.E.1, before payment of fee. Remittance by post should be addressed to the Chief Engineer, County Hall, Westminster Bridge, S.E.1.

No Tender received by the CLERK OF THE COUNCIL after 3 p.m. on MONDAY, 18th September, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Tender.

## BOROUGH OF ELLESMORE PORT.

DEMOLITION OF WHITE HOUSE BUILDINGS,  
WHITBY ROAD, ELLESMORE PORT.

TENDERS are invited for the DEMOLITION of the WHITE HOUSE BUILDINGS, WHITBY ROAD, Ellesmere Port.

Contract documents obtainable from the Borough Sealed Tenders, in the plain envelope provided, on the 19th AUGUST, 1961.

Sealed Tenders, in the plain envelope provided, must reach me by post not later than 5 p.m. on MONDAY, the 11th September, 1961. The Council do not bind themselves to accept the lowest or any Tender.

R. J. BERNIE,  
Town Clerk.

Municipal Offices,  
Ellesmere Port.

BOROUGH OF NEWBURY.  
IMPROVEMENTS TO SWIMMING POOL.

TENDERS are invited for the CONSTRUCTION of new CHANGING ROOMS, PUBLIC CONVENIENCES, REFRESHMENT KIOSK, CARETAKER'S FLAT, new FENCING, PAVING and other minor works in connection therewith.

Plans and Bill of Quantities and Form of Tender can be obtained from the Council's Architects, Messrs. SUTTON, GRIFFIN AND SWEETNAM, F.R.I.B.A., 87 Northbrook Street, Newbury, on and after Thursday, 10th August, 1961. Tenders, on the form supplied and in the endorsed envelope provided, must reach the undersigned not later than Noon on THURSDAY, 31st August, 1961. The Council do not bind themselves to accept the lowest or any Tender.

L. SOUTHERN,  
Town Clerk.

Municipal Buildings,  
Newbury.

URBAN DISTRICT COUNCIL OF  
SHOREHAM-BY-SEA.COUNCIL OFFICES, ST. WILFRID'S.  
CONVERSION OF PART OF THE PEVENSEY BLOCK  
INTO STAFF ACCOMMODATION.

FIXED-PRICE TENDERS are invited for the CONVERSION of the Ground floor of the SECOND FLOOR of the PEVENSEY BLOCK, ST. WILFRID'S, HAM ROAD, Shoreham-by-Sea, into STAFF ACCOMMODATION.

The Conditions of Contract may be inspected and the Drawings, Specifications and Form of Tender may be obtained at the Office of the Surveyor to the Council, Mr. W. H. FRASER, M.I.Mun.E., at St. Wilfrid's, Ham Road, Shoreham-by-Sea, Sussex.

Tenders must be delivered to the undersigned in a plain sealed envelope, bearing no indication or mark as to the name and address of the sender, endorsed "St. Wilfrid's, Ham Road, Shoreham-by-Sea, Sussex", not later than 9 a.m. on MONDAY, 18th September, 1961.

The Council does not undertake to accept the lowest or any Tender.

R. H. DAVIES,  
Clerk of the Council.

Town Hall,  
Shoreham-by-Sea,  
Sussex.

MILDENHALL RURAL DISTRICT  
COUNCIL.

## NEW BOREHOLES.

TENDERS are invited from experienced contractors for the CONSTRUCTION of TWO BOREHOLES, TESTING and other internal works at VICTORIA CAMP, in the Parish of Eriswell.

The boreholes, which will be lined with 24in. dia. steel tubes, will be about 120ft. deep, and tested simultaneously to 40,000 gallons per hour from each bore.

Specifications, Drawings, Bills of Quantities and Form of Tender may be obtained from the Council's Engineer, Mr. F. W. SANDERS, A.M.I.C.E., M.I.Mun.E., A.M.I.W.E. Applications for these documents must be received not later than SATURDAY, August, 26th, 1961. Contractors applying for the documents will be advised of the date by which Tenders must be received.

F. DANNATT,  
Clerk to the Council.

Council Offices,  
King Street,  
Mildenhall, Suffolk.

THAMES VALLEY WATER BOARD.  
CONTRACT NO. 32.4IN. WATER MAIN—BLOSSOM SQUARE TO  
NORTH STREET, THEALE, BERKS.

The Board invite FIXED-PRICE TENDERS for the ABOVE CONTRACT, comprising—

(a) Laying and jointing approx. 1,265yd. of 4in. Spun-Iron Water Mains.

(b) Other appurtenant works, e.g., Fixing Cossels, Manholes, Hydrants, etc.

Drawings and General Conditions may be inspected at the Office of the Engineer and Manager, 16/20 The Forbury, Reading. Copies of the Specification, Bill of Quantities, etc., may be obtained from the undersigned on payment of a deposit of £3 3s. (made payable to the Board), which will be refunded upon receipt of a bona-fide Tender and all documents.

Tenders must be delivered not later than 9 a.m. on MONDAY, 4th September, 1961, in the addressed envelope supplied.

The Board do not bind themselves to accept the lowest or any Tender.

P. E. B. GOSLING,  
Clerk/Treasurer.

Berkshire Avenue,  
Reading.  
August, 1961.

## CONTRACTS

ROYAL COUNTY OF BERKSHIRE.  
A.420 IMPROVEMENT AT BOTLEY.

TENDERS are invited for the ABOVE IMPROVEMENT SCHEME, which comprises the Demolition of Property, Drainage, Carriageway Foundation and Surfacing Footpath, and Fencing Work.

Contract documents may be obtained from the County Surveyor, Shire Hall, Reading, on payment of a deposit of £2 made payable to the Berkshire County Council, and Tenders must be lodged with the CLERK OF THE COUNCIL, Shire Hall, Reading, not later than the date marked on the envelope enclosed with the Contract documents.

COUNTY BOROUGH OF BURNLEY.  
HOT ROLLED ASPHALT SURFACING—COLNE ROAD.

TENDERS are invited for the HOT ROLLED ASPHALT SURFACING of approx. 9,000 sq. yd. of DUAL CARRIAGEWAY in COLNE ROAD, Burnley. Contract documents may be obtained from the Borough Engineer and Surveyor, 22-24 Nicholls Street, Burnley, on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders are to be returned to the undersigned not later than 10 a.m. on 29th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. V. THORNLEY,  
Town Clerk.

BOROUGH OF MANSFIELD.  
RAVENDALE HOUSING ESTATE.

## CONTRACT 25A—10 TRADITIONAL BUNGALOWS.

TENDERS are invited for the ERECTION of ONE-BEDROOM TRADITIONAL BUNGALOWS, GROUP "A". Bills of Quantities.

Forms of Tender, General Conditions of Contract and other relevant documents obtained from E. T. CROWE, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Carr Bank, Mansfield, on payment of a deposit of Two Guineas (£2 2s.), made payable to the Town Council, and Tenders will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, or the return of all loaned documents.

Tenders will only be considered if they are submitted in the envelope provided, which will be sealed and addressed to the undersigned, in time for the opening of tenders, not later than 12 Noon on WEDNESDAY, 20th September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender, and the provisional acceptance of a Tender will be subject to the approval of the Minister of Housing and Local Government.

A. C. SHEPHERD,  
Town Clerk.

BOROUGH OF BASINGSTOKE.  
GROUP "A" STREET LIGHTING.

TENDERS are invited for the INSTALLATION of GROUP "A" FLUORESCENT STREET LIGHTS for approx. 1,000yd. of TRUNK ROAD (A.339).

Bills of Quantities, Specifications, Conditions of Contract and Forms of Tender may be obtained from the Borough Surveyor, Municipal Buildings, London Road, Basingstoke, Hampshire, on payment of a Two Guinea Deposit which will be refundable on receipt of a bona-fide Tender not subsequently withdrawn. Tenders must be delivered to the undersigned in the official envelope provided, which must bear no name or mark identifying the sender, not later than Noon on 7th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. J. PURVIS,  
Town Clerk.

Municipal Buildings,  
London Road,  
Basingstoke.CARSHALTON URBAN DISTRICT  
COUNCIL.SUPPLY AND ERECTION OF STREET LIGHTING  
COLUMNS AND EQUIPMENT.

## STAGE V (BALANCE).

TENDERS are invited for the SUPPLY and ERECTION of 556 CONCRETE LIGHTING COLUMNS (15ft. mounting height); with Equipment—26 for High Standard Group "B" Sodium Lighting; 530 for Tunnel Lighting.

Form of Tender, Specification and Bill of Quantities may be obtained from the Engineer and Surveyor, Stone Court, The Grove, Carshalton, Surrey.

Tenders, enclosed in the envelope provided, are to be returned to the Chairman of the Council not later than Noon on WEDNESDAY, 6th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. H. DURRANT,  
Clerk of the Council.

District Council Offices,  
The Grove,  
Carshalton, Surrey.CHELMSFORD RURAL DISTRICT  
COUNCIL.INVITATION TO TENDER FOR WATER MAIN  
RENEWALS.(1) SOUTH HANNINGFIELD—WINDMILL INN TO  
THE ELMS.(2) WOODHAM FERRERS—BETWEEN LEIGHAMS  
ROAD AND FEN ROAD.

TENDERS are invited for the PROVISION, LAYING and JOINTING of approximately the FOLLOWING:

(1) 1,100 lin. yd. 4in. dia. Asbestos-cement Pressure Pipes.

(2) 3,170 lin. yd. 8in. dia. Asbestos-cement Pressure Pipes.

Drawings, Form of Tender, Specification and Bills of Quantities may be obtained from the Council's Engineer and Surveyor at the undermentioned address, on payment of a deposit of One Guinea in each case, which will be refunded on the receipt of a bona-fide Tender.

Tenders are invited on a Fixed-price Basis, and a Cost Variation Clause for Labour and Materials will not be included in the Contract.

Tenders to be delivered to the undersigned, in a plain sealed envelope suitably endorsed, by not later than MONDAY, 18th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. A. BOHANNON,  
Clerk of the Council.

Rural District Council Offices,  
New London Road,  
Chelmsford,  
Essex.

## CONTRACTS

BOROUGH OF MACCLESFIELD.  
LANGLEY SEWER.

FIXED-PRICE TENDERS are invited for the LAYING and JOINING of 850yds. 9in. dia. and 220yds. 12in. dia. CONCRETE PIPES, 135yds. 9in. dia. STEEL PIPES and 150yds. 9in. dia. CAST-IRON PIPES, the Construction of 18 Brick Manholes, and Piers to carry part of the steel sewer.

Tender documents may be obtained from the Engineer and Surveyor, Town Hall, Macclesfield, on payment of a deposit of £2 2s., returnable on receipt of a bona-fide Tender.

Tender documents may be obtained from the Engineer and Surveyor, Town Hall, Macclesfield, on payment of a deposit of £2 2s., returnable on receipt of a bona-fide Tender.

Sealed Tenders, endorsed "Langley Sewer," are to be delivered to the undersigned not later than Noon on FRIDAY, the 8th September, 1961.

WALTER ISAAC,  
Town Clerk.

Town Hall,  
Macclesfield.

BOROUGH OF NEWCASTLE-UNDER-LYME.  
CONVERSION OF GROUP "A" STREET LIGHTING.NORTH OF NEWCASTLE-UNDER-LYME—  
NANTWICH-TARPORLEY-TARVIN  
TRUNK ROAD, A.52.

TENDERS are invited for the SUPPLY, DELIVERY and INSTALLATION of 35 200-W SODIUM VAPOUR GROUP "A" LIGHTING UNITS, including Conversion fitting for existing Steel Columns, 20ft. 200-W Sodium Lanterns, Lamps, and ancillary equipment.

Plans may be inspected, and Tender documents obtained from the Borough Engineer, Lancaster Building, High Street, Newcastle, Staffs.

Tenders must be returned to the undersigned, in the envelope provided, and addressed "Tender for Group 'A' Lighting—Trunk Road, A.52," to be received not later than Noon on MONDAY, 11th September, 1961.

The lowest or any Tender will not necessarily be accepted.

C. J. MORTON,  
Town Clerk.

BOROUGH OF SOUTHGATE.  
RECONSTRUCTION AND WIDENING OF SECTION  
OF BARROVELL GREEN, N.2.

## CONTRACT NO. 1723.

TENDERS are invited from specialist firms for EXCAVATING in the EXISTING CARRIAGeway (area 2,200 sq. yds.) to a depth of approx. 12in., and the Provision and Laying of an 8in. thick 15:1 Lean-Mix Concrete Foundation and Base Course of 2in. Tarmacadam with 1in. Bitumen Macadam Surfacing, and other ancillary works, including the Construction of a Car Park of approx. 1,450 sq. yds. with a 12in. Core Foundation and Two Course Bituminous Surfacing.

The contractors wishing to tender should apply to the Borough Engineer and Surveyor for a copy of the relevant documents.

Sealed Tenders must be received by the undersigned not later than 9 a.m. on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GORDON H. TAYLOR,

Town Hall,  
Palmer Green,  
London, N.13.

August, 1961.

CITY OF EXETER.  
CENTRAL AREAS RECONSTRUCTION—  
INNER BY-PASS-STAGE III.

The CITY COUNCIL invite TENDERS for the ABOVE WORKS, comprising the Demolition of approx. 2,500,000 cu. yds. of Buildings, the Moving of approx. 13,000 cu. yds. of Excavated Material, the Laying of approx. 1,900 lin. yds. of Guttering, 1,500 cu. yds. of Concrete Kerbs, 5,400 sq. yds. of Concrete Carrigeway, 2,650 sq. yds. of Precast Concrete Flagging, the Construction of a Subway and Retaining Wall, the Culverting of Leats, together with Trenching, Conduits, Chambers, etc., for the Postman-General and other independent works.

Plans and General Conditions of Contract may be seen, and Form of Tender, Specification and Bill of Quantities obtained, at the Office of the undersigned on payment of a deposit of Three Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders, enclosed in the envelope provided, must reach the undersigned not later than 10 a.m. on MONDAY, 18th September, 1961, in an envelope to be provided, which shall not bear any name or mark indicating the sender.

Members of the Council are not to be personally canvassed by, or on behalf of, persons tendering.

The Council do not bind themselves to accept the lowest or any Tender.

JOHN BRIERLEY,  
City Engineer and Surveyor.

Municipal Offices,  
7 Southerhay West,  
Exeter.

9th August, 1961.

THE RURAL DISTRICT COUNCIL OF  
GODSTONE.

## SOUTH GODSTONE SEWAGE DISPOSAL WORKS.

CONSTRUCTION OF REINFORCED CONCRETE STORM  
WATER TANKS AND RELIEF OUTFALL SEWER.

(AMENDED ADVERTISEMENT GIVING REVISED  
DATE FOR RECEIVING TENDERS.)

TENDERS are invited from experienced civil engineering contractors for the CONSTRUCTION of two REINFORCED CONCRETE STORM WATER TANKS and PUMPING SUMP, PUMPHOUSE and FLUE CHANNELS, together with the LAYING of approx. 205yds. of 9in. dia. CAST-IRON PIPE SOIL SEWER, 270yds. of 9in. dia. STONEWARE PPE SOIL SEWER, and other ancillary works.

Drawings of the works may be inspected at the undermentioned Office and Bills of Quantities may be obtained from the Engineer and Surveyor upon payment of a deposit of £5 5s., which will be returned upon receipt of a bona-fide Tender which is not subsequently withdrawn.

Tenders must be submitted in plain envelopes, endorsed in accordance with the instructions given in the documents addressed to the undersigned and delivered there. Offers not later than Noon on WEDNESDAY, 13th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

M. HAWORTH,  
Clerk of the Council.

Council Offices,  
Oxted,  
Surrey.

## THE CONTRACT JOURNAL

SUPPLEMENT

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## CONTRACTS

## BEDFORDSHIRE COUNTY COUNCIL.

## A.505, CHURCH STREET, DUNSTABLE.

TENDERS are invited for the WIDENING and RE ALIGNMENT of the ABOVE ROAD over a length of 730yd.

The work consists of Site Clearance, Granular Sub-base, Lean-Mix Base, Asphalt Surfacing, considerable Diversion of Public Utility Services, Drainage Works, and the Lowering of the Carriageway under a reconstructed railway bridge. Tendering contractors should have had considerable experience in this type of work.

Copies of the Conditions of Contract, Specification and Bill of Quantities can be obtained from the County Surveyor, Dents Road, Bedford, on payment of Two Pounds deposit which will be refunded upon receipt of a bona-fide Tender or return of the documents before the closing date. The Drawings may be examined at the above Office by appointment during working hours. Tenders must be returned to me by FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender which may be received.

GEORGE BREWIS,

Clerk of the County Council.

## BEDFORDSHIRE COUNTY COUNCIL.

## AMPHILL TO TODDINGTON ROAD, A.5120. M.1 JUNCTION TO CRANFORD BRIDGE.

TENDERS are invited for the WIDENING and RE ALIGNMENT of the ABOVE ROAD over a length of 1,800yd.

The works consist of Earthworks, Concrete Haunching, Channeling, Granular Foundations, Tarmac and Asphalt Surfacing and Drainage. The tarmac work will include trial materials.

Copies of the Conditions of Contract, Specification and Bill of Quantities can be obtained from the County Surveyor, Dents Road, Bedford, on payment of Two Pounds deposit which will be refunded upon receipt of a bona-fide Tender or return of the documents before the closing date. The Drawings may be examined at the above Office by appointment during working hours. Tenders must be returned to me by FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender which may be received.

GEORGE BREWIS,

Clerk of the County Council.

## COUNTY BOROUGH OF ROTHERHAM.

## ALDWARKE SEWAGE WORKS RECONSTRUCTION—CONTRACT 9.

TENDERS are invited from experienced public works contractors for the CONSTRUCTION of FOUR STORM WATER TANKS & DRAINS and Grit Electrolysis Plants in Reinforced Concrete, together with new Concrete Roads, and other ancillary works.

Specifications and Bills of Quantities may be obtained from E. J. MANSON, B.Eng., A.M.I.C.E., Borough Engineer, Municipal Offices, Howard Street, Rotherham, on payment of a deposit of £5.5s. Five Guineas which will be refunded upon receipt of a bona-fide Tender and not subsequently withdrawn.

Drawings may be inspected at the Offices of the Borough Engineer during normal working hours. Tenders, together with fully priced Bills of Quantities in plain sealed envelopes, endorsed "Storm Water Aldwarke Sewage Works," must be delivered to the undersigned not later than 10 a.m. 18th SEPTEMBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

JOHN S. WALL,

Town Clerk.

Municipal Offices,  
Howard Street,  
Rotherham.

10th August, 1961.

## BOROUGH OF ABERYSTWYTH.

## WORKS OF WATER SUPPLY.

## REPAIR AT LLYN LLYGAD-RHEIDOL.

## REPLACEMENT TO WATER MAIN AT NANT LLYN.

TENDERS are invited for the CONSTRUCTION of RUBBLE-STONENWORK OVERFLOW CHANNELS, and incidental works, at LLYN LLYGAD-RHEIDOL, and for the CONSTRUCTION of about 50 lin. yd. of SPUN-IRON WATER MAIN 8in. and 9in. in dia., and incidental works, at NANT LLYN, in accordance with the Drawings, Specification and Bills of Quantities prepared by Engineers, MESSRS. A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Officer in Charge of the Work, or of the Engineers, on or after the 22nd August, 1961, on payment of a deposit of Three Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders on the form supplied and in the endorsed envelopes provided, are to be delivered to me by noon on MONDAY, 13th September, 1961.

The Council does not undertake to accept the lowest or any Tender.

W. PHILIP DAVIES,

Town Clerk.

Town Hall,  
Aberystwyth,  
Cardiganshire.

11th August, 1961.

## URBAN DISTRICT COUNCIL OF COULSDON AND PURLEY.

## PRIVATE STREET IMPROVEMENT WORK.

## THE RIDGEWAY (REMAINDER), SANDERSTEAD.

TENDERS are invited for the ABOVE WORK. Bills of Quantities and Forms of Tender, prepared by H. M. COLLINS, A.M.I.C.E., may be obtained upon deposit of £3 3s. which will be refunded upon receipt of a bona-fide Tender.

Plans, Specification and Conditions of Contract may be inspected at the above address.

Sealed Tenders, in the envelopes provided, must be delivered to me by the undersigned not later than First Post on TUESDAY, 5th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERIC F. J. FELIX,

Clerk of the Council.

Council Offices,  
Purley, Surrey.

## THE CONTRACT JOURNAL

## CONTRACTS

## BOROUGH OF STOCKTON-ON-TEES.

## RELIGHTING OF TRUNK ROAD, A.19.

SEPARATE TENDERS are invited for the SUPPLY ONLY of: (a) Reinforced Concrete Group "A" Lighting Columns; (b) 140-W S.V.D. Lamps, Lanterns, and ancillary equipment.

Forms of Tender, Conditions of Contract and Specifications may be obtained from GILBERT COWAN, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Church Road, Stockton-on-Tees on payment of a deposit of £2 2s. 6d. in respect of Tender (a) and £2 2s. in respect of Tender (b). Applicants should state their requirements of either or both Forms of Tender, and upon receipt of a bona-fide submission, deposits will be returned.

Tenders, enclosed in the endorsed envelopes provided, must be delivered to the undersigned not later than 12 Noon on FRIDAY, 8th September, 1961.

JOHN B. HAWORTH,

Town Clerk.

Municipal Buildings,  
Church Road,  
Stockton-on-Tees.

## CITY OF LIVERPOOL.

## TENDERS invited for SUPPLY of the FOLLOWING:

Tender Form No.

Uniform Clothing (Male and Female) ... 1

Uniform Caps and Helmets ... 3

Waterproof Clothing, Leggings and Gloves ... 4

Overall Clothing, Aprons and Binmen's ... 5

Health Visitors, etc. Uniform Clothing ... 6

Shirts, Collars, Ties, Socks and Pullovers ... 7

Tender Forms from the General Manager, Corporation Central Clothing Department, Edge Lane Works, Liverpool, on payment of a deposit of £1.00.

Tenders will not be considered unless they are appropriate current Corporation Standard Samples are submitted at the addresses specified in the Tender Forms.

(L.6965)a

THOMAS ALKER,

Town Clerk.

## SOUTH EAST DERBYSHIRE RURAL DISTRICT COUNCIL.

## ALVASTON AND BOULTON SEWERAGE AND STOCKER FLAT SEWERAGE.

TENDERS ARE invited for CARRYING OUT the WORKS which comprise the FOLLOWING:

(1) Foul Water Sewers—8in., 9in. and 12in. dia. Salt Glazed Ware, approx. 1,450 lin. yds. complete with Brick and Precast Concrete Manholes.

(2) Foul Water Sewers—36in. to 54in. dia. Spun-Concrete, approx. 1,300 lin. yds., complete with Brick Manholes.

(3) Storm Water Overflow Chamber.—A Brick and Concrete Chamber with Mechanically Raked Sides and ancillary works.

(4) Pumping Station—An automatic Pumping Station with Wet and Dry Wells of Mass Concrete and Brick Superstructure to house four electrically driven centrifugal pumps, control gear, etc., 170 lin. yds. of 8in. dia. Manholes.

(5) Treatment Station.—A small automatic Elecator Station of Mass Concrete and Brick Construction housing two ejectors, control gear, etc., 280 lin. yds. of 4in. dia. Rising Main.

(6) Surface Water Sewer and Regrading of Watercourse—36in. and 48in. Spun-Concrete approx. 700 lin. yds., complete with Brick Manholes, etc. Regrading and Deepening existing Watercourse, approx.

(7) The Restoration of Surfaces and the Maintenance of Works for a period of 12 months.

Copies of the General Conditions of Contract, Specification, Bills of Quantities, Drawings and Form of Tender may be obtained from SIR HERBERT HUMPHRIES AND McDONALD, Consulting Engineers, Park Chambers, 276 Monument Road, Edgbaston, Birmingham, on the deposit of Ten Guineas which will be returned upon the receipt of a bona-fide Tender (not subsequently withdrawn). The return of all documents and Drawings. Cheques must be made payable to the South East Derbyshire Rural District Council.

Particulars of the proposed works can be inspected daily between 9.30 a.m. to 12.30 p.m. and 2 p.m. to 5 p.m., Monday to Friday inclusive, at the Office of the Consulting Engineers and at the Office of the Senior Public Health Inspector to the Rural District Council. Council Offices, St. Mary's Gate, Derby. Information concerning the Drawings and documents can only be obtained from the Consulting Engineers.

NOTE.—The Tender, together with the priced Bill of Quantities enclose separately in the properly endorsed envelopes provided for the purpose, must be sealed and delivered to the Clerk of the Council, Council Offices, St. Mary's Gate, Derby, not later than Noon on MONDAY, 13th September, 1961. Tenders and/or documents received after that time will not be considered.

The Council do not bind themselves to accept the lowest or any Tender.

F. CLAYTON,

Clerk of the Council.

Council Offices,  
St. Mary's Gate,  
Derby.

## HATFIELD RURAL DISTRICT COUNCIL.

## HIGHWAYS ACT, 1959—PRIVATE STREET WORKS.

FIXED-PRICE TENDERS are invited for the FOLLOWING TWO CONTRACTS:

(a) Peplin Way (Brooklands Park).—Approx.

quantities: 800 lin. yds. 8in. x 10in. P.C.C.

Kerb, 2,100 sq. yds. Bitumen Macadam Surfacing, 1,200 sq. yds. Flagged Footpaths, 30 Concrete Garage Crossings, Verges and Driveways.

(b) King James Avenue (Cuffley).—Approx.

quantities: 530 lin. yds. 9in. and 8in. dia.

Concrete Sewers, 1,100 lin. yds. 8in. x 10in. P.C.C.

Kerb, 2,150 sq. yds. 2in. x 6in.

Concrete Edging, 4,000 sq. yds. Bitumen Macadam Surfacing, 2,150 sq. yds. Bitumen Macadam Footpaths, 3,800 sq. yds. Verges, 70 Concrete Garage Crossings, and Incidental works.

Tender documents obtained from the Engineer and Surveyor, North Place, B2 Great North Road, Hatfield on payment of a deposit of £100, to be returned (returnable after receipt of bona-fide Tender), where also the Drawings can be inspected during normal office hours.

Tenders for both contracts, in the envelopes provided, to be received by the undersigned not later than 12 Noon on MONDAY, 11th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

S. F. JAGO,

Clerk of the Council.

Council Offices,  
St. Albans Road,  
Hatfield.

11th August, 1961.

## CONTRACTS

## THE CONTRACT JOURNAL

## CONTRACTS

## WEST SUSSEX COUNTY COUNCIL.

## REFLECTING ROADSTUDS.

Contractors who wish to be invited to TENDER for the FIXING of NEW REFLECTING ROADSTUDS and the REMOVAL of EXISTING STUDS on Trunk and County Roads within West Sussex should submit their names to the County Surveyor, County Hall, Chichester, in an envelope endorsed "Reflecting Roadstuds," not later than FRIDAY, 23rd August, 1961.

T. C. HAYWARD,  
Clerk of the County Council.

## COUNTY BOROUGH OF SOUTHAMPTON.

## PRIVATE STREET WORKS.

## CONTRACT NO. PSW80.

## WAKEFIELD ROAD (PART)—APPROX. LENGTH 510YD.

TENDERS are invited for the MAKING-UP of the ABOVE ROAD with Tarmacadam Footways and Carrigeway, Concrete Kerb and Channel, Surface Water Drainage, and incidental works.

Applications for Contract documents to be made before 1st AUGUST, 1961, to the BOROUGH ENGINEER AND SURVEYOR, Civic Centre, Southampton.

Documents will be forwarded thereafter as and when ready. Contractors will be informed of the closing date for submitting completed Tenders. The Council do not bind themselves to accept the lowest or any Tender.

## CITY OF WORCESTER.

## REA WAY, DINES GREEN HOUSING ESTATE—SITE COMPLETION WORKS.

FIXED-RATE TENDERS are invited for the ABOVE WORKS, which comprise the Surfacing of approx. 1,800 sq. yd. of existing Stone Pitched Roads with Hot Rolled Asphalt, the Laying of 1,100 sq. yd. of Flax Paving, and 3,000 sq. yd. of Turf, together with other incidental works.

Documents obtainable from the City Engineer and Surveyor, 22 Bridge Street, Worcester, upon payment of a Two Guineas deposit which will be returned upon receipt of a bona-fide Tender.

Tenders, in the envelope provided, to be posted to me by the undersigned not later than THURSDAY, the 14th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

BERTRAM WEBSTER,  
Town Clerk.Guildhall,  
Worcester.

August, 1961.

## CITY OF DUNDEE.

## WIDENING OF FORFAR ROAD, A.929.

## CONSTRUCTION OF BRIDGE OVER DIGHTY WATER.

TENDERS are invited from experienced contractors for the CONSTRUCTION of a REINFORCED CONCRETE BRIDGE of 25ft. to carry two 24ft. Carrige-way across the Dighty Water.

Contract documents may be obtained on payment of £2, returnable on receipt of a bona-fide offer, from the City Engineer, 21 City Square, Dundee, in whose Office the Drawings may be inspected.

A representative of the City Engineer will be in attendance at the site on WEDNESDAY, 23rd August, at 2.30 p.m. to meet interested parties.

Tenders, in the form provided and endorsed on the outside of the envelope "Dighty Water Bridge," to be lodged with the Town Clerk, City Chambers, Dundee, not later than WEDNESDAY, 30th August, 1961.

ROBERT LYLE,  
Town Clerk.City Engineer's Office,  
21 City Square,  
Dundee.

11th August, 1961.

## WHITSTABLE URBAN DISTRICT COUNCIL.

## HIGHWAYS ACT, 1959.

## BERESFORD ROAD, LENGTH 350FT. APPROX.

TENDERS are invited for the MAKING-UP of the ABOVE ROAD comprising the Construction of Concrete Carrigeway, Footway Paving and Drainage.

Specifications, Conditions, Forms of Tender and Bills of Quantities may be obtained and the Drawings inspected at the Office of the Engineer and Surveyor, The Castle, Whitstable, during normal office hours.

The contract documents, in the form provided and endorsed in a plain sealed envelope, endorsed as instructed on the contract documents, and must be delivered by not later than Noon on MONDAY, 11th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. TOMLINSON,  
Clerk of the Council.The Castle,  
Whitstable.

17th August, 1961.

## STOCKPORT CORPORATION WATERWORKS.

## GOVT VALLEY SUPPLY.

## CONSTRUCTION OF CONTROL HOUSE AND WELLHEAD CHAMBERS.

## CONTRACT "N."

Stockport Corporation Waterworks Committee invite TENDERS for the CONSTRUCTION of a CONTROL HOUSE to house theバルブ和止水栓等 required in connection with their Govt Valley Boreholes, and of two Reinforced Concrete Wellhead Chambers situated at the top of the boreholes.

Drawing, Specification and Tender Form may be obtained on application to G. H. HILL AND SONS (MANCHESTER), Civil Engineers, 51 Mosley Street, Manchester, 2. Applications should be accompanied by deposit of a cheque for Five Guineas made payable to G. H. Hill and Sons (Manchester). The deposit will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Drawings and documents may be inspected at the Office of the Water Engineer and Manager, Town Hall, Stockport, and at the Offices of G. H. Hill and Sons, 51 Mosley Street, Manchester, 2.

Sealed Tenders, endorsed "Govt Valley Supply—Contract 'N'" and addressed to the CHAIRMAN OF THE WATERWORKS COMMITTEE, Town Hall, Stockport, should be delivered by Noon, 8th September, 1961.

The Committee or the Corporation do not bind themselves to accept the lowest or any Tender.

August 17 1961

## CONTRACTS

**COUNTY BOROUGH OF BURY.**  
EXTENSIONS TO BLACKFORD BRIDGE SEWAGE WORKS, PRIMARY TREATMENT PLANT AND STORM WATER TANKS.

TENDERS on a Fixed-price Basis invited for CONSTRUCTION of EXTENSIONS to ABOVE WORKS, comprising Reinforced Concrete Detention Tanks, Screen Chambers, Storm Water Tanks, Storm Water Overflows and Channels, Pumping Stations, Riser Mains, Mechanical Plant, Sewerage, Access Roads, and ancillary works.

Tender documents obtainable from Borough Engineer on payment of £5 5s., returnable to contractors who submit a bona-fide Tender. Contract Drawings may be inspected at Borough Engineer's Office.

Only contractors experienced in this type of work will be considered, and a list of recent similar works executed must be submitted with Tender.

Tenders, enclosed in official envelope, must reach me by 2nd SEPTEMBER, 1961.

EDWARD S. SMITH,  
Town Clerk.

Town Hall,  
Bury.  
27th July, 1961.

**COUNTY BOROUGH OF NORTHAMPTON.**

TENDERS, returnable by 10 a.m. on the 11th SEPTEMBER, 1961, are invited for the LAYING of approx. 15 miles of 15/24in. dia. Precast Concrete Pipes and ancillary works.

Contractors wishing to tender should apply to the Borough Engineer, Guildhall, Northampton, enclosing crossed cheque for £2 2s., returnable on receipt of a bona-fide Tender.

C. E. VIVIAN ROWE,  
Town Clerk.

**COUNTY BOROUGH OF DUDLEY.**

## SLEDMORE ROAD FLOOD RELIEF SCHEME.

APPLICATIONS to TENDER are invited for the ABOVE CONTRACT. The Work comprises approximately 80 lin. yd. of 18in. diameter Concrete Storm-water Sewers and 60 lin. yd. of 9in. diameter Stormwater Sewers.

Applications for Tender documents should be addressed to the Borough Engineer, The Council House, Dudley, accompanied by a deposit of £2 2s., which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents.

The last date for receipt of applications is 28th of AUGUST, 1961, and Tender documents will be forwarded as soon as possible after this date.

P. D. WADSWORTH,  
Town Clerk.

The Council House,  
Dudley,  
Worcestershire.  
August, 1961.

**BOROUGH OF WREXHAM.**  
RHOSDDU BURIAL GROUND—CONVERSION INTO GARDENS.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of PATHS, PAVING, WALLING and PREPARATION OF GROUNDS.

Drawings and General Conditions of Contract may be inspected at, and Specification, Bills of Quantities and Forms of Tender obtained from the Borough Engineer and Surveyor, Guildhall, Wrexham, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders must be sealed and delivered to the undersigned by 12 Noon, MONDAY, 11th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS,  
Town Clerk.

Guildhall,  
Wrexham.  
August, 1961.

**CAERNARVON BOROUGH COUNCIL.**

## DEMOLITION OF PAVILION.

TENDERS or OFFERS are invited from experienced demolition contractors for the COMPLETE DEMANTLING of the PAVILION at Caernarvon. The building (20ft x 10ft) is a timber-framed structure clad with corrugated iron sheeting, and contains a large quantity of excellent timber and other salvageable materials.

Form of Tender or Offer, Plan, Conditions of Contract and Schedule of Work may be obtained from the Borough Engineer and Surveyor, Swyddfa'r Dref, High Street, Caernarvon.

Tenders must be received by the undersigned by 12 Noon on the 16th SEPTEMBER, 1961.

(Signed) J. O. SMITH,  
Swyddfa'r Dref,  
High Street,  
Caernarvon.

**BOROUGH OF POOLE.**  
PRIVATE STREET WORKS AND PUBLIC SEWERAGE.

## BENMOOR AND BORLEY ROADS.

The Council invites TENDERS for the MAKING-UP of the ABOVE STREETS and for SURFACE WATER DRAINAGE. The total length of streets is 500yd. approximately.

Contract documents from the Borough Engineer on payment of Two Guineas deposit. Tenders to me by 31st AUGUST, 1961.

J. C. HILLIER,  
Town Clerk.

**SEVENOAKS RURAL DISTRICT COUNCIL.**

## KENSING (CONTRACT II) SEWERAGE SCHEME.

TENDERS are invited from public works contractors with suitable experience, for the CONSTRUCTION of approx. 2,370 lin. yd. of 6in. and 8in. dia. PITCH FIBRE SEWERS and 32 Brick Manholes.

Documents may be obtained from, and Drawings inspected at, the Office of the Engineer and Surveyor during normal office hours on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed received by the undersigned by Noon on TUESDAY, 5th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

B. H. EDWARDS,  
Clerk of the Council.

Inglewood,  
Oakhill Road,  
Sevenoaks, Kent.  
14th August, 1961.

## CONTRACTS

**URBAN DISTRICT COUNCIL OF BASILDON.**

ERCTION of 56 THREE-BEDROOM MAISONNETTES IN FOUR-STORY BLOCKS AT VICTORIA ROAD, LAINDON, ESSEX.

Experienced contractors should apply for Tender documents to ENGINEER AND SURVEYOR, Basildon Town Hall, by 1st SEPTEMBER.

Applications must be accompanied by a £2 2s. deposit (refundable).

**CHESHIRE EDUCATION COMMITTEE.**

## SUPPLY OF MATERIALS.

Contractors wishing to be placed on an Approved List from whom TENDERS can be obtained for the SUPPLY of FERTILISER, to apply to the undersigned no later than 31st AUGUST, 1961.

The list of contractors, when prepared, will operate until 1st June, 1964, and accepted Tenders will apply for a six-month period.

JOHN G. KELLETT,  
Director of Education.  
County Hall,  
Chester.

TECHNICAL ESTIMATING SERVICE. The most accurate estimating service in the country. All trades—large or small. GUARANTEED RESULTS. Modest fees.—Send for details to 73 Leadenhall Street, London, E.C.3. Tel.: Ave 9676.

SUB-CONTRACT WORK.—200yd. HEADING FOR 36in. dia. pipes—Chesterfield district.—Write to: LANE BROTHERS (MANSFIELD), LTD., Hermitage Lane, Mansfield.

FORMWORK SUB - CONTRACTOR REQUIRES

SHUTTERING suitable for gang of six carpenters commencing on or around 21st AUGUST.—Write to: CONVEY BROS., 39 Belmont Street, London, N.W.1.

SUB-CONTRACTS WANTED.—SEWERS, HEADINGS, WATER and GAS MAINS, UNDERGROUND CABLES, etc.—J. MOLLOY, 102 Elford Place, Harehills Road, Leeds, 8.

For Contracts received too late for classification see page 797

## APPOINTMENTS VACANT

**ROYAL COUNTY OF BERKSHIRE.**

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS on the staff of the County Surveyor:

- (1) Assistant Engineers at Head Office. Salary scale, P.T. III (£960-£1,140), or (£1,140-£1,310).
- (2) Traffic Engineer at Head Office. Salary scale A.P.T. IV.
- (3) Materials Engineer at Head Office. Salary scale A.P.T. IV.

For the appointment (1), these will be made in accordance with examination qualifications and experience.

For appointment (2), applicants must be qualified by examination and have had experience of traffic engineering.

For appointment (3), applicants should be suitably qualified but those with sound practical experience in material and soil testing will be considered.

Further details and forms of application obtainable from and returnable to the COUNTY SURVEYOR, Shire Hall, Reading, not later than 12 Noon on MONDAY, 4th September, 1961.

**HAMPSHIRE COUNTY COUNCIL.**

## ROADS AND BRIDGES.

ROAD FOREMAN REQUIRED for County Surveyor's Department, for work in the Kingsclere Division. Misc. Grade IV (£625-£685 plus overtime). Commencing salary according to qualifications and experience.

Candidates should be not more than 45 years of age, and must have had experience in the handling of men, and road construction work.

A motor van will be provided and maintained by the County Council.

The post is subject to a satisfactory medical report.

In approved cases the County Council assists with removal expenses and separation allowances.

Application Forms, returnable by the 23rd AUGUST, from the COUNTY SURVEYOR, The Castle, Winchester.

**BOROUGH OF FALMOUTH.**

## APPOINTMENT OF OUTDOOR SUPERVISOR.

## BOROUGH ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENT of an OUTDOOR SUPERVISOR in the Department of the Borough Engineer and Surveyor.

The person appointed will be expected to have a considerable experience in highways, sewerage and building work. Experience in sea defence work will also be an advantage. He must be experienced in handling a mixed labour force, and a man of drive is required.

The salary will be in accordance with A.P.T. Grade II, and a fixed car allowance of £160 per annum will be paid.

Housing accommodation will be made available, if required.

Forms of application may be obtained from MR. B. J. SWEENEY, M.I.Mun.E., F.R.I.C.S., Borough Engineer, Surveyor, and Water Engineer, Municipal Office, Falmouth, to whom they should be returned not later than SATURDAY, the 26th August, 1961.

Canvassing will disqualify.

E. J. K. GIBBONS,  
Town Clerk.

Municipal Offices,  
Falmouth,  
Cornwall.

CITY OF PLYMOUTH.

APPLICATIONS are invited for the APPOINTMENT of ASSISTANT ENGINEERS, Grade A.P.T. III (£960-£1,140).

Applicants should have completed recognised professional training and be capable surveyors.

It is the practice of the Council to pay half the cost of removal expenses up to a maximum contribution of £25.

Housing accommodation may be available in certain circumstances.

The appointment is superannuable, subject to medical examination, and the age limit is 40 years, or 45 years serving with another local authority.

Applications, on forms obtainable from the undersigned, to be returned by 2nd SEPTEMBER, 1961.

J. ACKROYD,  
City Engineer and Surveyor.

The Guildhall,  
Plymouth.

## APPOINTMENTS VACANT

**BOROUGH OF WILLESDEN.**  
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## APPOINTMENT OF TOWN PLANNING ASSISTANT—GRADE A.P.T. V.

APPLICATIONS are invited for the APPOINTMENT of TOWN PLANNING ASSISTANT. Salary, A.P.T. V (£1,315-£1,480 p.a. plus London Weighting). Candidates must possess appropriate qualifications and have had good experience in dealing with planning applications and the general town planning administration.

The Council are prepared to assist by making a mortgage advance for house purchase, and making a contribution up to £25 towards the cost of removal expenses.

FULL details and Forms of Application may be obtained from the Borough Engineer, Town Hall, Dyne Road, Kilburn, N.W.6, and must be returned to the undersigned not later than 10 a.m. on MONDAY, 4th September, 1961.

(Signed) R. S. FORSTER,  
Town Clerk.

**BOROUGH OF WILLESDEN.**  
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## APPLICANTS are invited for the FOLLOWING APPOINTMENTS in the Building Surveyor's Sections:

- (a) General Assistants (2 Posts), within Grade A.P.T. II (£815-£860 p.a.).
- (b) General Assistant, within Grade A.P.T. I (£645-£685 p.a.).

London Weighting is payable in addition to both above salaries.

There is no age limit, but applicants should have had experience in the general work of a Building Surveyor's Office, and the administration of Building By-laws and the Town Planning Acts. For one of the posts, experience of dealing with the control of advertisements will be an advantage.

The Council are prepared to assist by making a mortgage advance for house purchase, and making a contribution up to £25 towards the cost of removal expenses.

FULL details and Forms of Application may be obtained from the Borough Engineer, Town Hall, Dyne Road, Kilburn, N.W.6, and must be returned to the undersigned not later than 10 a.m. on MONDAY, 4th September, 1961.

(Signed) R. S. FORSTER,  
Town Clerk.

**WILLESDEN URBAN DISTRICT COUNCIL.**

## CHIEF ENGINEERING ASSISTANT—A.P.T. III.

APPLICATIONS are invited for the POST of CHIEF ENGINEERING ASSISTANT in the Engineer and Surveyor's Department, from persons possessing the final qualification of a recognised Institution, and who have had considerable experience in all branches of the work of a Municipal Engineer.

The post offers opportunities for experience in the execution and control of the Drawing Office staff.

The salary will be within A.P.T. III (minimum of £1,055-£1,140), and the appointment will be subject to the Local Government Superannuation Acts, and one month's notice on either side.

Housing accommodation available for married applicants, and two-thirds removal expenses payable.

Applications, together with the names of two referees, should be received by the undersigned not later than on FRIDAY, 1st September.

JOHN R. RIDING,  
Clerk of the Council.

**TRING URBAN DISTRICT COUNCIL.**

## CLERK OF WORKS.

The Council invite APPLICATIONS for the ABOVE-MENTIONED POST at a salary of £900 p.a. from persons fully experienced in the development of Council Housing Estates.

The person appointed will be responsible for the supervision of Council development on two separate sites—one for 12 houses (where work has not yet begun), the other for 102 dwellings, including three-storey blocks of flats, 600yd. of concrete roads, sewers, and other ancillary site works. Tenders for the roads and sewers have been invited.

The person appointed may also be required to assist with building inspections on private estates until such time as the development on the larger site is fully under way.

It is anticipated that the duration of the appointment will be about two years.

A casual car user car allowance will be paid.

The appointment is subject to the National Conditions of Service for Local Authorities Staff, so far as applicable to temporary appointments: (b) one month's notice of termination.

Applications, stating age, qualifications and experience, including details of previous schemes supervised, should reach me not later than FRIDAY, the 29th August.

Applicants must state whether or not they are related to any member of senior officer of the Council.

C. DAVIES,  
Clerk of the Council.

**WEST DEAN RURAL DISTRICT COUNCIL.**

## APPOINTMENT OF TEMPORARY RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of TEMPORARY RESIDENT ENGINEER to supervise, under the direction of the Council's Consulting Engineers, MESSRS. WILLCOX, RAKER AND MARSHALL, the construction, seepage, manholes and pumping station at Lydbrook, and disposal works, comprising settlement tanks, circular filters, humus tanks, sludge drying beds, sludge pumping station, and other incidental works of an approximate total Contract value of £160,000.

The duration of the appointment is expected to be approximately two years, and is terminable by two months' notice on either side.

Applications, stating age, qualifications and experience, salary required, with particulars of past and present employment, and accompanied by copies of relevant testimonials, must be received by the undersigned not later than THURSDAY, the 24th August, 1961.

A. F. GILLO,  
Clerk of the Council.

**Council Offices,**  
Coleford,  
Glos.

4th August, 1961.

## APPOINTMENTS VACANT

BRITISH GUIANA.  
PUBLIC WORKS DEPARTMENT.

## CIVIL ENGINEERS.

Duties: Responsibility for a District, including construction and maintenance of sea and river defences, building of roads, construction of buildings, and control of staff. May also be required to take charge of a large building project and to assist on large road construction or sea defence projects.

Qualifications: Candidates should have either a University degree, or equivalent, recognised by the Institution of Civil Engineers, plus two years' practical experience; or have passed, or be otherwise exempt from, Part I and Part II of the Final Examination of the Institution of Civil Engineers, and have had not less than five years' approved practical experience. Candidates should have experience in handling work by direct labour and by contract.

Terms of Appointment: On contract for one tour of duty, not more than the first instance.

Emoluments (including gratuity): £1,347-£1,715 per annum.

Free passages. Generous home leave.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House Terrace, London, S.W.1, quoting BCD112/30/05/D14, and giving full name, age, and brief details of qualifications and experience.

## TANZANIA.

## WATER DEVELOPMENT AND IRRIGATION DIVISION.

## HYDROLOGIST.

Duties: Under the overall direction of the Chief Planning Engineer, to initiate and supervise the establishment of hydrological gauging stations, compilation and compilation of records for publication, and the analysis and interpretation of results.

Qualifications: Candidates must either have a University degree, or equivalent, recognised by the Institution of Civil Engineers, or have passed, or be otherwise exempt from, Parts I and II of the Final Examination of the Institution of Civil Engineers. They should also have experience in hydrological work and be capable of training personnel in methods of checking and analysing the observations.

Terms of Appointment: Contract for one or two tours of 21-27 months.

Emoluments (including gratuity): £1,582-£3,060 per annum.

Children's Education Allowance of up to £200 per annum per child.

Free passages. Generous leave. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House Terrace, S.W.1, quoting No. 140/B/017/D14, your full name, age, and brief details of qualifications and experience.

## HERTFORDSHIRE COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING

- (a) Assistant Engineer, A.P.T. IV-V (£1,140-£1,480 per annum).
- (b) Engineering Assistant, A.P.T. IV (£1,140-£1,310 per annum).
- (c) Engineering Assistant, A.P.T. III (£960-£1,140 per annum).
- (d) Quantity Surveyor, A.P.T. III (£960-£1,140 per annum).
- (e) Junior Engineering Assistant, A.P.T. I/III (£645-£1,140 per annum).

In the case of appointments (e), transfer to Grades II or III will not be effected until requisite qualifications and experience have been obtained. Opportunity will be given for gaining experience in Divisional Surveyors' offices.

Consideration will be given to the payment of house allowance, return railway fares home, and assistance towards removal expenses, and house purchase.

Apply at once, giving details of experience, qualifications, present salary, age, and names of two referees, to the COUNTY SURVEYOR, County Hall, Hertford.

## COUNTY BOROUGH OF EAST HAM.

SENIOR ASSISTANT ENGINEER (GENERAL)—  
A.P.T. IV (£1,185-£1,355).

Salary in excess of the minimum may be paid, according to qualifications and experience. A subsistence allowance may be granted over a reasonable period to the person appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

For application details and application forms, returnable by 1st SEPTEMBER, 1961, from the TOWN CLERK, Town Hall, East Ham, E.6.

## CITY OF BIRMINGHAM.

## PUBLIC WORKS DEPARTMENT.

## STRUCTURAL ENGINEERS.

APPLICATIONS are invited for the FOLLOWING POSTS:

- (a) Structural Engineer — Grade A.P.T. V (£1,310-£1,480 p.a.).
- (b) Structural Engineers — Grade A.P.T. IV (£1,140-£1,310 p.a.).
- (c) Structural Engineers — Grade A.P.T. II (£815-£960 p.a.).
- (d) Junior Structural Engineers — Grade A.P.T. I (£665-£835 p.a.).
- (e) Structural Draughtsman — Grade A.P.T. I (£665-£835 p.a.).

The candidates for posts (a) and (b) must be Corporate Members of the Institution of Civil Engineers, or Associate Members of the Institution of Structural Engineers, and have considerable experience in structural design and building construction. The successful applicants will be engaged upon the checking of designs in reinforced concrete and structural steelwork submitted in accordance with the By-laws.

Candidates for posts (c) and (d) must hold a Higher National Certificate or equivalent qualification, and have good experience in structural design and building construction, and will be engaged upon the design and detailing of reinforced concrete and structural steelwork.

Candidates for post (e) should hold an Ordinary National Certificate and have had good experience in structural draughtsmanship.

The posts are permanent, superannuable, and subject to a medical examination. Applications, stating age, qualifications, experience, and naming two referees, should be received by the undersigned not later than 2nd SEPTEMBER, 1961.

Canvassing disqualifies.

HERBERT J. MANZONI,  
City Engineer and Surveyor.

Baskerville House,  
Civic Centre,  
Birmingham, 1.

## APPOINTMENTS VACANT

## SIERRA LEONE.

## RAILWAY DEPARTMENT.

## CHIEF ENGINEER.

Duties: To take complete control of Engineering Branch, including the maintenance, development, capital, and rehabilitation of the railway.

Qualifications: Candidates, over 40 years of age, must be A.M.I.C.E., with at least 15 years' experience on rail or civil engineering projects.

Terms: Contract/gratuity for two tours of 15 to 18 months.

Total Emoluments (including gratuity): £3,148 p.a.

Free passages. Generous leave.

Apply METROPOLITAN ZONE RECRUITING AGENCY, Room 756, Sanctuary Buildings, Great Smith Street, London, S.W.1, quoting BCD110/15/01/D14, and giving full name and age, and brief details of qualifications and experience.

## BOROUGH OF DROITWICH.

## CLERK OF WORKS.

APPLICATIONS are invited for the TEMPORARY APPOINTMENT of a CLERK OF WORKS, salary in accordance with Grade A.P.T. II (£815-£960). The point of entry will be determined by the applicant's qualifications and experience.

The successful applicant will be required for work on a sewerage scheme to include the construction of a pumping station, concrete sedimentation tank, and sewers under the direction of the Council's Consulting Engineers, and further upon road improvement works, estate roads and new housing, under the direction of the Borough Engineer and Surveyor.

The town is a rapidly growing one, with a considerable programme of capital works, and the appointment will be for a period of not less than three years.

Applications, stating age, qualifications and experience, together with the names and addresses of three referees, should reach the undersigned not later than FRIDAY, 25th August, 1961.

Canvassing will be a disqualification.

GRAHAM L. ROBINSON, M.I.Mun.E.,  
M.R.S.H.,  
Borough Engineer and Surveyor.

Town Hall,  
Droitwich,  
9th August, 1961.

## BOROUGH OF POOLE.

## (A) ASSISTANT ENGINEER, A.P.T. II (£815-£960).

## (B) SURVEY ASSISTANT, MISC. V (£685-£760).

APPLICATIONS are invited for the ABOVE APPOINTMENTS in the Borough Engineer's Department.

Applicants for appointment (a) must have appropriate professional qualifications, and experience in road construction and/or sewerage schemes.

For appointment (b) applicants should be experienced and accurate Surveyors.

Application Forms, from the Borough Engineer, Municipal Buildings, Poole, to be returned by the 31st AUGUST, 1961.

J. G. HILLIER,  
Town Clerk.

August, 1961.

## FROME RURAL DISTRICT COUNCIL.

## NUNNEY SEWERAGE AND SEWAGE DISPOSAL WORKS.

## APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the ABOVE-MENTIONED APPOINTMENT, to supervise the construction of a Scheme, under the direction of MESSRS. W. HERBERT BATEMAN AND PARTNERS, Consulting Engineers.

The appointment will last for approx. nine months, and the inclusive salary payable will be up to £1,250 per annum, according to experience and qualifications. The appointment will be subject to termination by the service of one month's notice on either side.

A motor car is not essential, but should the successful candidate have one available, authorised journeys will be paid for at casual user rates.

Applications for the appointment, endorsed "Resident Engineer—Nunney Sewage Scheme," giving details of the candidates' experience, and the names and addresses of two referees, should reach the undersigned not later than Midday on MONDAY, the 28th August, 1961.

J. C. HUGHES,  
Clerk of the Council.

The Public Offices,  
Christchurch Street West,  
Frome,  
9th August, 1961.

## BASILDON DEVELOPMENT CORPORATION.

## CHIEF ENGINEER'S DEPARTMENT.

## APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for APPOINTMENT either within the salary Scale "B" (£855-£1,050 per annum), or Scale "C" (£815-£960 per annum), the scale and starting salary to be determined according to qualifications and experience. The appointment is superannuable and subject to one month's notice on either side. Housing may be made available.

Candidates should be experienced in the supervision of the construction of roads, sewers, footways, services, etc. Experience of setting-out and measurement of contract work would be an advantage.

Applications, stating age, qualifications, experience, and names and addresses of two (technical) referees, should be sent to the GENERAL MANAGER, Gifford House, Basildon, Essex, not later than First Post on MONDAY, 28th August, 1961.

## THE EAST SURREY WATER COMPANY.

## INSPECTOR OF WORKS.

APPLICATIONS are invited for an experienced INSPECTOR OF WORKS to assist in the supervision of a £600,000 scheme at Leatherhead, Surrey, to provide water.

The work consists of reinforced concrete water-retaining structures, having barrel vault roof, installation of water treatment, and pumping plant and mainlaying. Period of contract at least two years. Housing accommodation is available at low rental. Salaries between £15 and £20 per week, according to experience.

Applications to be submitted by MONDAY, 4th September, 1961.

G. M. SWALES, B.Eng., M.I.C.E.,  
M.I.W.E.,  
Chief Engineer.

London Road,  
Redhill, Surrey.

## APPOINTMENTS VACANT

## METROPOLITAN BOROUGH OF ISLINGTON.

## BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## ENGINEERING STAFF (PERMANENT).

APPLICATIONS are invited from persons not more than 50 years of age for the FOLLOWING APPOINTMENTS:

(a) 1 Senior Engineering Assistant, A.P.T. V (£1,310-£1,480 p.a. plus London Weighting).

(b) 1 Engineering Assistant, A.P.T. III (£960-£1,140 p.a. plus London Weighting).

(c) 2 Surveyor/Technical Assistant, A.P.T. III (£960-£1,140 p.a. plus London Weighting).

Applicants for: (a) should be members of the Institution of Civil or Municipal Engineers, or hold other appropriate qualifications, and be suitably experienced; (b) should be qualifying for examinations, as in (a), and be suitable engineers; (c) should have Intermediate Examinations of the Municipal Engineers or Chartered Surveyors, or other appropriate qualifications, and preference will be given to applicants with a sound knowledge of the Town and Country Planning Act, and Land Building Act.

Application Forms, returnable by First Post on MONDAY, 11th September, 1961, obtainable from the Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON CLARK,  
Town Clerk.

## METROPOLITAN BOROUGH OF ISLINGTON.

## BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## HIGHWAYS INSPECTOR—GRADE A.P.T. II (£815-£960 P.A. PLUS LONDON WEIGHTING).

APPLICATIONS are invited from suitably experienced persons not more than 50 years of age for the ABOVE APPOINTMENT on the permanent staff.

Application Forms, returnable by First Post on MONDAY, 11th September, 1961, obtainable from the Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON CLARK,  
Town Clerk.

## CITY OF SHEFFIELD.

## PUBLIC WORKS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Public Works Department (HENRY SMITH, A.R.I.C.S., General Manager).

All the posts are permanent appointments, initially on a £310 per annum scheme of high flat development.

(1) Site Quantity Surveyor—Grade V—Salary £1,310-£1,480.

Applicants must be fully experienced in site measurement, adjustment of variations, interim and final accounts, and have some experience in contracts of bonus organisation.

(2) Assistant Site Quantity Surveyor—Grade IV—Salary £1,140-£1,310.

Applicants must have had suitable site experience under the foregoing headings. Senior Assistant—Works (Two required)—Grade IV—Salary £1,140-£1,310.

Applicants must have had wide experience as Sub-agents or General Foremen, and be accustomed to dealing with large-scale reinforced concrete construction.

(4) Site Engineer—Grade IV—Salary £1,140-£1,310.

A young engineer is required with some contracting experience and with an interest in setting-out, site organisation, and concrete technology.

The starting point within the salary range mentioned will depend upon experience and qualifications.

Applications, stating age, experience, qualifications, present employment, together with the names of two referees, to reach the undersigned not later than the 4th SEPTEMBER, 1961.

JOHN HEYS,  
Town Clerk.

Town Hall,  
Sheffield, 1.  
8th August, 1961.

## CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT.

## HIGHWAYS AND SURVEY SECTION (SPECIAL WORKS).

APPLICATIONS are invited for the POST of CHIEF ENGINEERING ASSISTANT, Grade A.P.T. V (£1,310-£1,480 per annum).

The successful applicant will be required to undertake technical duties and administration in the Special Works Section, including work in connection with the Inner Ring Road and associated central development of varying and important nature. He will be required to act for the Engineer-in-Charge of the Special Works Section when necessary.

Applicants should be Corporate Members of the Institution of Civil Engineers or of the Institution of Municipal Engineers; membership of the Royal Institution of Chartered Surveyors or of the Town Planning Institute, or experience in these fields would be advantageous.

The post is permanent, superannuable, and subject to a medical examination.

Applications, stating qualifications, age and experience, and names of two referees, should reach the undersigned not later than 2nd SEPTEMBER, 1961.

Canvassing disqualifies.

HERBERT J. MANZONI,  
City Engineer and Surveyor.

Baskerville House,  
Civic Centre,  
Birmingham, 1.

## WORTLEY RURAL DISTRICT COUNCIL.

## (AMENDED ADVERTISEMENT.)

## APPOINTMENT OF TEMPORARY CLERK OF WORKS.

APPLICATIONS are invited for this APPOINTMENT at a salary of £850 p.a.

Forms of Application may be obtained from the undersigned, to whom applications should be delivered not later than 4th SEPTEMBER, 1961.

A Council house will be provided if required, and it is anticipated the minimum period for the appointment will be two years.

A motor car allowance will be paid on the essential user scale for a car not exceeding 1,199 c.c.

ADRIAN M. KELLY,  
Clerk.

Council Offices,  
Grenoside,  
Near Sheffield.

## APPOINTMENTS VACANT

## MINISTRY OF LABOUR.

**CIVIL ENGINEER REQUIRED** as Senior Technical Officer (Unestablished) at the Technical and Scientific Register, 28 King Street, London, S.W.1. A.M.I.C.E. or similar qualification, or a University degree in Civil Engineering. Candidates should have had wide professional and some administrative experience.

Duties: Placing in employment of Civil Engineers, and advisory work connected therewith.

Salary range £1,526-£1,797.

Forms from above address, quoting Ref. KJE315/1A.

Closing date: 31st AUGUST, 1961.

## MINISTRY OF LABOUR.

**ASSISTANT QUANTITY SURVEYORS REQUIRED** by Ministry of Education, Admiralty, War Office, Air Ministry, Ministry of Works.

Posts in London, Provinces and overseas. London salaries for fully qualified and experienced men, up to £1,412 p.a. Prospects of promotion and pensionable status.

Write for particulars of vacancies in each Department, and forms, quoting "J.Q.S." to MINISTRY OF LABOUR, Technical and Scientific Register (Room 403), 28 King Street, London, S.W.1.

## MINISTRY OF LABOUR.

**QUANTITY SURVEYING ASSISTANTS REQUIRED** by Admiralty, War Office, Air Ministry, Ministry of Works.

Posts in London, Provinces and overseas. Salaries in London for candidates with suitable experience range from £752 p.a. at age 21 to £1,188 p.a.

Write for particulars of vacancies in each Department, and forms, to MINISTRY OF LABOUR, Technical and Scientific Register (Room 403), 28 King Street, London, S.W.1.

## RURAL DISTRICT COUNCIL OF MILLOM.

## NORTHERN PARISHES WATER SCHEME.

## RESIDENT ENGINEER.

APPLICATIONS are invited for APPOINTMENT as RESIDENT ENGINEER, to supervise, under the direction of F. L. BROUGHTON, T.D., M.Sc. (Eng.), A.M.I.C.E., County Engineer, Cumberland County Council, the construction of the above scheme, which includes laying 18 miles of 9in.-2in. asbestos-cement pipes, the construction of two reinforced concrete reservoirs, pumping house, and ancillary equipment. The contract is expected to start in September, 1961, and the contract period is 18 months.

The salary will be £1,500 p.a. plus subsistence; and travelling allowance for a car not exceeding 1,199 c.c. will be payable on the Essential Users' Scale of the N.I.C.E.

Further details and Application Forms are obtainable from the County Engineer, Millom Chambers, Carlisle, to whom completed applications should be returned not later than 4th SEPTEMBER, 1961.

W. N. KITCHIN,  
Clerk of the Council.

Council Offices,  
Millom, Cumb.  
August, 1961.

## THAMES VALLEY WATER BOARD.

## ENGINEERING ASSISTANT—GRADE A.P.T. IV (£1,140-£1,310).

APPLICATIONS are invited from suitably qualified persons for the ABOVE APPOINTMENT.

Applicants should be Chartered Civil Engineers with some years' experience of water supply engineering. The Board has responsibility for the supply of a large area of Berkshire and South Oxfordshire, and has a large programme of capital works involving the development of new boreholes, pumping stations, modernisation of existing stations, and the design and construction of new reservoirs, water towers and trunk mains.

The appointment is subject to the National Scheme of Conditions of Service, the Provisions of the Local Government Superannuation Acts, 1937-53, and the passing of a medical examination.

In regard to candidates not resident in the Board's area: (a) Housing accommodation will be provided if required; (b) an appropriate rent; (c) Alternatively, favourable mortgage facilities are available from local authorities for house purchase; (d) in approved cases, for a maximum period of six months and whilst separated from family—(i) a lodgings allowance of up to 35s. per week paid to successful applicant, if required; and (ii) the cost of second-class return rail fare home granted to successful applicant at monthly intervals; (d) 50 per cent. of approved removal expenses payable.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be sent to the Engineer and Manager, 16/20 The Forbury, Reading, not later than the 4th SEPTEMBER, 1961.

O. KEAN, M.I.C.E., M.I.Mech.E.,  
M.I.W.E.,  
Engineer and Manager

**QUALIFIED** and experienced **QUANTITY SURVEYOR REQUIRED**. Cost-conscious. Wide knowledge of the building trade. Supervision and control of sub-contracts, negotiation of contracts, experience in mining, and large factory, office, extensions. Large scale building and civil engineering works procedure to final accounts. — Write Box V.4594, "The Contract Journal."

**TECHNICAL REPRESENTATIVE REQUIRED**, aged 25-35, with wide experience of civil engineering work.—Please apply in first instance by letter, giving details of education and professional experience, and sending the names of two references, to **CONSOLIDATED PNEUMATIC TOOL CO., LTD.**, 471 Chester Road, Manchester, 16.

**STIMSON ENGINEER**, with good prospects of rapid promotion, as agent, **REQUISITE**, for major road improvement schemes in Surrey. Quality control of work, measurements, setting out, etc. Youngish man preferred, but minimum of five years' experience with contractors essential. Permanent employment in southern area offered to right man.—Write, with details of age, experience and salary, to **NICHOLSON CONSTRUCTION CO., LTD.**, Freeland House, Cranleigh, Surrey.

**QUANTITY SURVEYORS**.—Good opportunity for keen young Surveyor, to work on own initiative, in Mid-Kent area, on building and civil engineering work, valuations, taking-off, etc. Superannuation and transport. — Write Box V.4636, "The Contract Journal."

**ESTIMATOR and SURVEYOR REQUIRED** by Midland building contractors. Applicant must be experienced in pricing, taking of quantities, interim valuations, extras and variations, final accounts, ordering materials, dealing with correspondence, subcontractors, and piecemealers. — Write, giving full particulars of past experience, present position, and salary required, to Box V.4640, "The Contract Journal."

## APPOINTMENTS VACANT

## CLASSIFIED ADVERTISEMENT

## RATES:

Classification	First Four Lines or Less	Each Additional Line
APPOINTMENTS VACANT	12/-	2/6
APPOINTMENTS WANTED	7/6	1/6
WORK REQUIRED, BUSINESS OPPORTUNITIES, BUSINESSES FOR SALE, DENTAL, FINANCE, PROFESSIONAL SERVICES, AGENCIES, HORTICULTURAL, PROPERTY, SALE BY AUCTION, PLANT AND MISCELLANEOUS	14/-	3/-
BOX NO. 1/- EXTRA.		

**SALES REPRESENTATIVE.**—Due to continued expansion, we can now offer an interesting and progressive position on our sales staff. The successful applicant must have sales experience or commercial background, and a knowledge of the Greater London area would be an advantage.—Write, giving details of experience, age, and salary required, to the Sales Manager, GREENHAM EQUIPMENTS, LTD., Clayton Road, Ruislip Road, Greenford, Middlesex.

**SENIOR ENGINEER REQUIRED** for large multi-storey building contract in London. Preferably A.R.C.E. or similar engineering degree required. Good salary and prospects. Send full details of experience and other relevant information to Personnel Officer, M. J. GLEESON (CONTRACTORS), LTD., Harefield House, London Road, North Cheam, Surrey, quoting reference SE/F/1.

## ESTIMATOR

Experienced CIVIL ENGINEERING ESTIMATOR REQUIRED for head office appointment. Site and estimating experience required in some or all of the following: Heavy reinforced and mass concrete foundations, piling, earthworks, bridges, tunnelling and dams. Good salary, conditions and prospects, and entry into company's superannuation scheme, arranged after probationary period. — Apply, in writing, to:

The Chief Estimator,  
THE MITCHELL CONSTRUCTION CO., LTD.,  
Wharf Works, Peterborough.

**A GENT** WANTED for concrete piled sea outfall in South Wales. The appointment will be a permanent one, and offers excellent prospects to a keen young Engineer with some previous experience of piling work. Write in confidence to Box V.4612, "The Contract Journal."

**EXPERIENCED SITE ENGINEER REQUIRED** by civil engineering contractors, for roadworks, minor drainage and sewage disposal contracts Southern Counties. The position is permanent, with pension scheme, carrying a substantial salary, and offers exceptional prospects of advancement to higher grades in an expanding organisation.—Write in confidence, stating age, full details of experience, and past employers, together with salary required, to Box V.4608, "The Contract Journal."

**GENERAL FOREMAN/AGENT** (trade essential) REQUIRED by Southern Area civil engineering contractors. Permanent, progressive position is offered to experienced, energetic men.—Write, giving details of salary, age, and experience, to **NICHOLSON CONSTRUCTION CO., LTD.**, Freeland House, Cranleigh, Surrey.

**CIVIL ENGINEERING ASSISTANT REQUIRED** immediately at Lancaster and Preston for reinforced and mass concrete service reservoir work. Applicants should be 20-23 years of age and have experience in setting out, etc., and the use of instruments.—Please apply, in writing, stating experience, age and salary required, to Secretary, R. AND T. HOWARTH, LTD., Crossfield Works, Rochdale.

Personnel Manager,  
A. MONK AND CO., LTD.,  
Padgate, Warrington, Lancs.

**MIXCONCRETE LTD.** REQUIRE experienced REARMED MIXED CONCRETE MANAGER for their plant at Bristol. Local man preferred. Please write, stating age, experience and salary required, to Mixconcrete, Ltd., Billing, Northampton.

## WANTED

For motorway contract, experienced PLANT MANAGER. Must be conversant with modern plant, costing methods and labour control.

WRITE BOX V.4655, "THE CONTRACT JOURNAL."

**MANAGER WANTED** for hire department of well-known London plant company. Fully experienced persons only need apply.

Write Box V.4574, "The Contract Journal."

**SITE AGENT REQUIRED** for multi-storey flats contract in London area. Must be capable, experienced man. Top salary and conditions for right person. Write Box V.4638, "The Contract Journal."

**SENIOR AREA AGENT REQUIRED** to take charge of medium-size contracts in an area Berks/Bucks. Experience in control of several contracts collectable is the minimum experience required. Generous salary, car, pension, etc. Considerable scope for advancement in expanding organisation.—Write, giving full details of experience, age and salary required, to Box V.4651, "The Contract Journal."

## APPOINTMENTS VACANT

**SITE MANAGER REQUIRED** for large flats scheme in London area. Successful experience of multi-storey construction essential. Best salary and conditions for fully capable man.—Write in confidence to Box V.4639, "The Contract Journal."

**ENGINEERS**, with particular experience in the measuring and settlement of contracts; **THREE SITE ENGINEERS**, fully experienced in the use of instruments. Apply in writing, stating age, details of experience, and salary required, to The Secretary, SYDNEY GREEN AND SONS (CONTRACTORS) LTD., Highlands Farm, Henley-on-Thames, Oxon.

## THE LYON GROUP

**REQUIRE AGENTS** and **GENERAL FOREMEN** capable of taking complete charge of large industrial, commercial and domestic developments, including multi-storey structures in reinforced concrete. These positions will be well paid, and offer great opportunities of advancement with an expanding group for determined and capable men.—Apply:

RONALD LYON CONSTRUCTION, LTD.,  
Auckland House,  
New Zealand Avenue, Walton-on-Thames, Surrey.

**PLANT HIRE MANAGER WANTED** for expanding fleet of contractors' plant.—Applications from thoroughly experienced persons to DUDLEY VALE, LTD., 9 Palace Street, London, S.W.1.

**TAYLOR WOODROW CONSTRUCTION, LTD.** REQUIRE Building and Civil Engineering sites, experienced WAGERS, LTD., TIMEKEEPERS and CHECKERS. Mobile and willing to work hard for advancement. Good salary, Pension scheme. Interviews at Southall, with travelling expenses paid, can be arranged at any time, including early evenings and Saturday mornings.—Write, giving details of experience, etc., to Personnel Manager, 345 Ruislip Road, Southall, Middx. Tel: Waxlow 2366.

**TAYLOR WOODROW CONSTRUCTION, LTD.** REQUIRE CLERKS in the accountancy department at their head office in Southall, Middx. These vacancies exist in the section producing monthly statements of the financial situation of individual contracts. Candidates should have experience within the contractor's industry, and some site experience would be advantageous. Interviews at Southall can be arranged at any time, including early evenings and Saturday mornings, with travelling expenses paid. Write, giving details of personal history, which will be treated as confidential, to Personnel Manager, 345 Ruislip Road, Southall, Middx.

## THE FULLERS' EARTH UNION, LTD.

Redhill, Surrey, a member of the Laporte Group of Companies, REQUIRE A CIVIL ENGINEER with good academic background and experience in soil mechanics, to advise on and formulate plans for the development and sales of Bentonite products in civil engineering practice. The appointment is in a sector of considerable interest, and potential for development will be for imaginative insight and practical experience of a responsible character, and will involve initiating and following up lines of investigation from bench to field. An initial two-year contract at a substantial salary will be visualised. Related to this notice will be well known from those whose interest lies in the direction suggested, so that an interview to discuss the scope of the appointment may be arranged.—Applications should be made in the first instance, quoting Reference FEU C13/52, to:

Group Personnel Manager,  
LAPORTE INDUSTRIES, LTD.,  
Hanover House, 14 Hanover Square, London, W.1.

**WORKS MANAGER REQUIRED** by contractors' plant hire company situated approx. 50 miles north of London. Successful applicant will take responsibility for repairs to all equipment and vehicles, including control of labour. Must be first-class organiser, good disciplinarian, and have previously acted in a similar capacity. Full knowledge of all engineering plant essential. References should be submitted. State age, salary and give fullest details of previous appointments.—Write Box V.4667, "The Contract Journal."

**CONTRACTS MANAGER** to undertake complete supervision of public works and housing contracts in Cheshire and North Wales area. The position calls for an individual with marked ability to carry contracts through from inception to completion, including preparing schedules, negotiations with client, local authorities, etc., able to manage and supervise all aspects of the company's projects in this area. There is every chance of the scope improving, with advantage to the successful applicant, providing it is warranted. Salary commensurate with ability. Write Box V.4643, "The Contract Journal."

## SENIOR COMPANY AGENT

An expanding company of building contractors REQUIRE A Senior Company Agent to take charge of two adjacent flats contracts totalling a value of over £100,000 in a south-western industrial area. The successful applicant will be required to take complete responsibility for the performing of the contract, and will act at all times as the personal representative of the board of directors. He must have received an extensive experience in site managerial duties, and his qualifications should include a sound technical, as well as practical, training, and possess drive and ability to manage and plan all trades and technical site staff. The company shortly plan to open new regional offices throughout the country and further business develops. The successful applicant will, therefore, have early prospects of regional management before him, after a reasonable proving period. The position offers a high commencing salary, allied with a generous discretionary bonus and car. Assistance with housing could also be considered if necessary. Write in confidence to:

Managing Director,  
BOX V.4626, "THE CONTRACT JOURNAL."

**SENIOR and JUNIOR SITE ENGINEERS REQUIRED** for building civil engineering contracts in London, Glasgow and the South of England. Must be experienced in the use of surveying instruments and controlling engineering staff and construction.—Applications giving details of age, experience, and salary required, to The Chief Structural Engineer, TERSONS, LTD., Dollis Park, London, N.3.

**COMMISSION SALESMAN REQUIRED** in Southern Counties for a range of new and essential building plant. Attractive terms.—Write Box V.4664, "The Contract Journal."

## APPOINTMENTS VACANT

**CHECKER/STOREKEEPER REQUIRED** for building contracts in London and Southern Counties areas. Fully experienced, and good references essential. Willing to live away from home.—Write, giving details of age, experience, and salary required, to Box 1062, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

**EXPERIENCED WAGES/SITE CLERK REQUIRED.** Full knowledge of all aspects building/civil engineering industry. Applicants must have good references and be willing to live away from home if necessary.—State details of age, salary expected, and past experience, to Box 1063, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

**LEADING GROUP OF** building and civil engineering contractors invite applications from SITE ENGINEERS. Initially, the appointments will be on large structural engineering contracts in South West England, and offer excellent scope for advancement in a rapidly developing field of the Group's activities. Please send full details of age, experience and qualifications to Box No. A.L.5471, A.K. Advertising, Ltd., 212a Shaftesbury Avenue, W.C.2.

## FOREMAN CARPENTERS FOR TRAINING AS GENERAL FOREMEN

Young and ambitious Foreman Carpenters interested in advancement REQUIRED for training as GENERAL FOREMEN.—Write, with details, to:

BOX V.4652, "THE CONTRACT JOURNAL."

**R EINFORCED CONCRETE DESIGNER** urgently REQUIRED, due to staff promotions, for interesting work involving design, detailing and site supervision of reinforced concrete floors and other structures. Graduate Structural Engineer with at least two years' experience preferred, plus qualification H.R.C. Good salary, five-day week, pension scheme, and free life assurance.—Apply, stating age, experience, and present salary, to SAMUEL TYACK AND CO., LTD., Fulwell Road, Sunderland.

**FITTERS/SERVICE ENGINEERS.** Skilled Fitters are REQUIRED for further specialist training with a view to promotion to Service Engineer for maintenance work on fleet of lorry-mounted mobile electrical cranes. Basic requirements are sound apprenticeship in automobile or similar engineering, and a desire for the improved position which comes with added skill. Must be capable of working on own initiative. To be smart, intelligent, and able to drive. Excellent canteen facilities; good working conditions; bonus and overtime. Applications in writing, stating age, experience, and previous experience, to HARBOUR AND GENERAL WORKS, LTD., 173 St. Stephen's House, Victoria Embankment, Westminster, S.W.1.

## GENERAL FOREMEN

**WANTED** now for contracts between £50,000 to £200,000 in London. Starting salary will be £2 per week, together with a two-yearly bonus. Superannuation and eventual long service bonus. Work contract is medium size, rapidly expanding, and prospects for advancement in position and salary are excellent. Applicants must be capable of working to strict time schedules and of achieving a high standard of finished work.—Write, with details, to:

BOX V.4653, "THE CONTRACT JOURNAL."

**SERVICE MANAGER REQUIRED**—Leverton Brentwood Depot. Experienced Mechanical Engineer REQUIRED immediately to manage service department for Caterpillar earthmoving equipment dealer operating in South-East England. Experience of contractors plant maintenance essential, further training on Caterpillar equipment available to man with basic experience and qualifications. Permanent position in an expanding organisation, calling for initiative, enterprise and adaptability. Salary in accordance with age and experience. Company car provided. Non-contributory pension scheme.—Apply, with full details and previous experience, etc., to Managing Director, H. LEVERTON AND CO., LTD., Gelderd Road, Gledsomes, Leeds.

**CUBITTS—REINFORCED CONCRETE DESIGNERS/DETAILERS** are REQUIRED for an expansion of structural drawing office. The work will be interesting and involve the use of precast and prestressed concrete. Experience in these techniques will be an asset, but opportunity will be provided for training those who are interested in learning some basic knowledge of reinforced concrete.—Please send full details to Personnel Manager (M.6879), HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN), LTD., 1 Queen Anne's Gate, London, S.W.1.

## AGENTS

**REQUIRED** for heavy civil engineering foundation and large-scale reinforced concrete work. Previous experience of full contract control essential, with ability to organise and work within a specified programme. Excellent prospects are offered in a well-established and expanding organisation. We have a progressive staff policy operating superannuation and bonus schemes. Car provided.—For further details and application form, apply, in confidence, giving brief particulars, to:

M. T. Barwick, Director,  
C. BRYANT AND SON, LTD.,  
Whitmore Road, Small Heath, Birmingham, 10.

**COST CLERKS REQUIRED** by RICHARD COSTAIN, LTD., for work on civil engineering contracts in the Home Counties area. Previous costing experience is essential, preferably in this industry. Subsistence or travelling allowances paid where applicable, in addition to good salaries.—Please write to Personnel Manager, 111 Westminster Bridge Road, London, S.E.1.

**LEADING GROUP** of building and civil engineering contractors invite applications from BUILDING AGENTS and GENERAL WORKERS for appointments in the Midlands and South-West England. These positions are permanent and pensionable, and offer excellent prospects to men well experienced in taking charge of large building contracts, and who are accustomed to working to a very high standard. Apply in confidence, stating age, experience in detail, and salary required, to Box No. A.L.5483, A.K. Advertising, Ltd., 212a Shaftesbury Avenue, W.C.2.

**A PPLICATIONS** are invited by leading London building and civil engineering contractors, AGENTS, SITE ENGINEERS SECTION FOREMEN, with experience of large civil engineering works. The positions are permanent and pensionable, and offer excellent scope for advancement.—Please send full details in confidence to Box No. A.A.5477, A.K. Advertising, 212a Shaftesbury Avenue, London, W.C.2.

## APPOINTMENTS VACANT

**SITE CLERKS REQUIRED** by civil engineering contractors. Must be experienced in wages, P.A.Y.E., etc., and be conversant with Working Time Agreement. Apply in writing, with full details, experience to CHRISTIANI AND NIELSEN, LTD., Romney House, Tufton Street, Westminster, S.W.1.

**REINFORCED CONCRETE ENGINEER**, with experience of frame construction and quality control, REQUIRED by national firm of contractors, for construction site on West Coast of Scotland. Excellent prospects for advancement to Agent status on future contracts or may be suitable alternative. Write, stating age, experience, and salary required, to THE MITCHELL CONSTRUCTION CO., LTD., New Office Block, Ardeer, Stevenston, Ayrshire.

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Reporting directly to Plant Superintendent, is required for mining operation in Ireland. Must have extensive experience of workshop practice, be familiar in the repair and maintenance of mining plant, including heavy construction equipment, and be competent to organise and supervise men. State salary required and give details of qualifications, experience, references and other pertinent information in first letter.

WRITE BOX V.4654, "THE CONTRACT JOURNAL."

**A PPLICATIONS** are invited from GENERAL FOREMEN for new contracts and large conversion works in the London area. Interesting and high-class work. The appointments offer excellent opportunities for advancement, with participation in stock position and Pension Schemes. Please send full details in confidence to Box No. G.F.5505, A.K. Advertising, Ltd., 212a Shaftesbury Avenue, W.C.2.

**FOREMAN**.—Good all-round civil engineering man REQUIRED for work in Nigeria with an established company. Preferably of single status, tradesman, under 45, of good health, character and intelligence. Experience and initiative essential. Prospect of several top-class appointments leave periods on full pay and air fares paid. References required later.—Applications, giving details of experience, previous posts, age, health, and domestic responsibilities, to HARBOUR AND GENERAL WORKS, LTD., 173 St. Stephen's House, Victoria Embankment, Westminster, S.W.1.

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Capable of earning £2,000 a year. WANTED for prestressed concrete bridge in South England. Must be a first-class man, fully experienced in heavy civil engineering construction, particularly where high-quality shoring is required. Salary will depend upon experience, but with bonus, overtime and allowances will be as high as £2,000 p.a., or even higher, for the man we want.—Write, with brief details of career, to:

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**A SSISTANT CIVIL ENGINEERS REQUIRED** by an established company in Nigeria. Single men, preferably qualified, of sound health, character and intelligence, and with previous contract experience. Prospect of several months with attractive leave periods on full pay, and all air passages paid. References required later.—Applications, giving details of education, training, age, and health, etc., to HARBOUR AND GENERAL WORKS, LTD., 173 St. Stephen's House, Victoria Embankment, Westminster, S.W.1.

**CIVIL ENGINEER**, aged 30/40, REQUIRED by expanding iron ore mining company in Sierra Leone, whose installations include a railway and port facilities. Candidates must have organization ability, and have had site experience of construction work and maintenance routine, preferably connected with similar undertakings. Commencing salary £1,700 p.a. plus bonus. Marriage allowance £10 per month and £5 per month for each child under 18 years. 15-month leave, followed by liberal leave on full pay. In U.K. return passage paid. Initial kit allowance. Free furnished quarters and medical attention. Contributory pension scheme, with retirement at age 55. Life assurance and dependants' income scheme.—Write, giving full details of experience, stating age, married or single, to SIERRA LEONE DEVELOPMENT CO., LTD., Dept. C.E.6, City Gate House, Finsbury Square, London, E.C.2.

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**E NGINEER/AGENT** for supervision of civil engineering contracts. Applicants should be experienced contractors' men aged 35/45, with sound knowledge of £1,600/ pension scheme. — Write Box V.4671, "The Contract Journal."

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For Advertisements received too late for classification see page 797

## APPOINTMENTS WANTED

**E NGINEER**, experienced in motorways, sewerage schemes and disposal works, SEEKS EMPLOYMENT as AGENT, SUB-AGENT or ENGINEER. — Write Box W.4655, "The Contract Journal."

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**E XCAVATION SUB-CONTRACTS.** Technical staff available to analyse programme and price complex projects. Particular attention given to finish and compaction. D9, D8, T118 and T114 Scrapers, Excavators, Loading Shovels and Lorries available with competent and imaginative supervision for execution of work.—DICK HAMPTON, Broadview Farm, Blacknest, Alton, Hants. Tel.: Bentley 3241.

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**INDUSTRIAL ENGINEERS OF REPUTE** invite in strict confidence, DETAILS of INVENTIONS, with object of manufacturing and world distribution. Write Box K.L.517. "The Contract Journal."

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**CLINKER AND CONCRETE BLOCKS AND READY MIXED CONCRETE BUSINESS FOR SALE**, Bournemouth area. Freehold. Write Box X.4666. "The Contract Journal."

**R EADING** (Newbury area). **CONTROLLING INTEREST WANTED** in PLANT HIRE CONTRACTING or similar business. Capital available. Write Box X.4631. "The Contract Journal."

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**BULK TURF and TOP-SOIL DELIVERIES** 24-hour quotations given for London and Home Counties. J. P. TOMLINSON, Longlands Nursery, Blackness Lane, Keston, Kent. Telephone: Farmborough (Kent) 51000.

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**DERBYSHIRE WEATHERED LIMESTONE** for rockeries.—Send your requirements for quotation to PETER B. GODLEY, Carrick Hill Nurseries, Shirehead, 10.

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**TECHNICAL ESTIMATING SERVICE**. The most accurate estimating service in the country. All trades, large or small. GUARANTEED RESULTS. Modest fees.—Send for details to 73 Leadenhall Street, London, E.C.3. Tel: Ave 9676.

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**C ONSULTANT** will undertake on fee basis REPORTS to MANAGERS, INVESTIGATIONS, APPRAISALS and EXAMINATIONS on individual contracts or entire organisations. Inquiries in confidence. "FORWARD," 345 Queens Road, Maidstone, Kent.

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## SALES BY TENDER

## LANCASHIRE COUNTY COUNCIL

TENDERS are invited for the PURCHASE of the FOLLOWING SURPLUS FIRE BRIGADE EQUIPMENT: 1939 Leyland-Metz 100ft. Turntable Ladder. 1938 Leyland-Metz 100ft. Turntable Ladder. 1940 Dennis-Merryweather 100ft. Turntable Ladder. Three Axles and one Bayley 50ft. Wheeled Fire Engines.

Further particulars and Forms of Tender from Chief Fire Officer, Lancashire County Fire Brigade, Headquarters, Fulwood, Preston. Tenders returnable to CLERK OF COUNCIL by 11th SEPTEMBER, 1961.

BOROUGH OF WEMBLEY.

## OFFERS FOR SALVAGE

OFFERS are invited for the PURCHASE of SALVAGE, including Clinker and Screened Dust, from the Refuse Disposal Works for the six months commencing 1st October, 1961.

No Tender Forms are to be issued, but particulars of the salvage produced, together with an estimate of the expected output during the period concerned, may be obtained from the Director of Public Cleansing, Alperton Lane, Wembley, on application, together with a stamped and addressed envelope.

Offers, in plain sealed envelopes, endorsed "Offers for Salvage (Refuse Disposal)," and bearing no indication of the sender, must be received by the TOWN CLERK, Town Hall, Wembley, not later than the 2nd SEPTEMBER, 1961.

The Council do not bind themselves to accept the highest or any offer.

## AGENCIES

**SPECIALISED PRECAST CONCRETE WORK** REQUIRED in Midland and North West areas. Supplied ex works or delivered. Prompt attention. Please write to Box P.N.714. "The Contract Journal."

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Three Baxter 36in. x 24in. x 12in. and 20in. x 12in. Stone Breakers; Two Marsden 32in. x 6in. and 24in. x 6in. Roller-bearing Stone Granulators; Two Kennedy Nos. 195 and 81/2 Gyrotary Stone Crushers; New Spares for Kennedy Crushers, Adam Breakers and Marsden Granulators; Four Kennedy and Marsden Threadrock Vibrating Screens, 12ft. x 3ft., 10ft. x 3ft. and 6ft. x 3ft.; 32 New Screen Plates; Seven Mavor and Coulson 24in. and 18in. Troughed Belt Conveyors, from 106ft. long; 125 New Idlers for Mavor and Coulson Conveyors; Parker 42in. x 72in. Type FS Plate Apron Feeders; 8-compartment Stock-bait Storage Hopper; 40ft. x 12ft. x 22ft. deep; Two Steel and Wooden Storage Hoppers, 15ft. x 10ft. x 20ft. and 19ft. x 7ft. x 11ft. deep; Millars Oil-fired Tarmacadam Mixer and Asphalt Plant; capacity 10 tons per hour; Goodwin's 100-h.p. twin-cylinder-paddle Tarmacadam Mixer and Portable Stone Diver, 16ft. x 3ft.; Unused 3,000-gallon Bristow's Tankmaster Oil-fired Tar Boiler; Five Portable Tar Boilers, from 1,300-gallon to 400-gallon capacity; 20 A.C. 3-phase Slip Ring and Squirrel Cage Motors, from 225 h.p. (new 1959) to 10 h.p. (new 1958); 20 B.I. Static Condensers, 200-kVA English Electric Transformer, P.V.11000/6600, S.V.440; Three Distribution Switchboards; Large Quantity Power Cable; Two Blackstone 45-h.p. and Ruston and Hornsby 4VS Portion Diesel Engines; Two Pooley 20-ton 10 ft. x 10 ft. x 10 ft. Heavy-duty Wheeled Tippers; 10 Compressed Explosives Magazines; Steel Structures; 10 Sectional Wooden Erections from 60ft. x 15ft.; Nissen Huts, 35ft. x 16ft.; Three 1968 Diesel Excavators, with Forward Shovel Equipments; Large Number New 1968 Excavator Spares; International 86K3 Drott Skid Steer Loader (new 1959); Two Muir-Hill 2WD Diesel Hydraulic Loading Shovels (new 1959 and 1956); Two Muir-Hill 14B and 10D Diesel Dumpertrucks; Two A.E.C. 10vd. and 6.7yd. Dumptrucks (new 1958 and 1959); Fiat 551 Diesel Crawler Tractor, with Hydraulics; Andezo Bros. Broomdale SV2 Portable Diesel driven Air Compressor; 167 c.f.m. Broomdale and Ingersoll-Rand Portable Petrol driven Air Compressors, capacity 110 and 105 c.f.m.; Stothert and Pitt 28in. Vibroll Tandem Road Roller; 5/32 Model Concrete Mixer; Liner Portasat Size 4 Portable Petrol driven Circular Saw Bench; Quasi-24-kVA Portable Petrol driven Welding Transformer; H.E.C. Portable Petrol driven Garage Air Compressor; Davenset Model B Battery Charger; E.P.C. 71-ton Hydraulic Trolley Jack; 3in. Portable Electric Drill; Oxygen-Acetylene Welding and Cutting Kits; Welding Electrodes, Anvils and Quarry Tools; Austin A35 Diversions Van (new Oct. 1960); Austin 70 Pick-up Truck; Goodwin Petro. Pump (new 1960); Six Fuel Storage Tanks, from 1,500 gallons capacity; Chain Liftin Blocks; 24 Dumper and Tractor Wheels, Tyres and Tubes; Large Quantity Oil and Grease; Seven Rock Drills and Paving Breakers; Air Hose; Rock Drill Bits; Portable Oil Filter; Oil Filter Cleaning Machine (new 1960); Two Steel Filing Cabinets; Oak File Top Desk, etc., also about 23 acres of Land containing quantity Whinstone.

At GARAGE, BELKNOWES FARM, INVERKEITHING, FIFE, on TUESDAY, 5th SEPTEMBER, 1961. Beginning at Belknokes Farm at 10.30 a.m. prompt. C. HENRY BUTCHER AND CO., AUCTIONEERS, HAMILTON, have received instructions from Rosyth Quarry Co. Ltd., who are required to cease operations as a result of the formation of the approach roads for the Forth Road Bridge, to sell, by Auction, as above. Catalogues from Auctioneers.

HAMILTON, August, 1961.

## FULLER HORSEY SONS &amp; CASSELL

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## SALES BY AUCTION

By Order of the Secretary of State for War,

E ————— R

MESSRS.

FULLER, HORSEY SONS AND CASSELL have been instructed to offer for SALE by AUCTION in Lots at the ROYAL ARSENAL, WOOLWICH, LONDON, S.E.18, on TUESDAY, 29th AUGUST, 1961, and the following days at 10.30 a.m. specifically

## ENGINEERS' MACHINE TOOLS, INDUSTRIAL EQUIPMENT AND SURPLUS STORES

Including

CINCINNATI 3/42 PLANT HYDROMATIC MILLING MACHINE; Kitchen and Wade Motorised Vertical CYLINDRICAL HONING MACHINE; Thomson HYDRAULIC BROACH GRINDER; SURFACE, CYLINDRICAL, ROTARY and other GRINDERS; S.S. and S.L. LATHE, PLAN, UNIVERSAL and VERTICAL MILLING MACHINES; VERTICAL AND HORIZONTAL DRILLING MACHINE; POWER PRESSES; 210 Petrol Electric CHARGING SETS; 39 Russell-Newbury 62.5-kVA DIESEL ELECTRIC GENERATING SETS; Petrol/Electric Generating Sets; 8 Coventry Climax FORKLIFT TRUCKS; M.T. Spares; Matbro-Mantis Diesel-driven HEAVY DUTY PORTABLE EXCAVATOR; Matbro Petrol ROAD ROLLER; CONCRETE MIXERS; 3 Barber-Green TARMACADAM PLANT DRYERS; 4,000 pairs BINOCULARS; 1,700 POCKET WATCHES; 500 WRISTLET and STOP WATCHES; 2,000 PRISMATIC COMPASSES; 400 SIGNALLING TELESCOPES; ELECTRIC CAMPING EQUIPMENT; SCRAN, Radar and Wireless Equipment; RECEPTION SETS; COMMUNICATION RECEIVERS; 160 cases WIRELESS KIT EQUIPMENT; Portable Batteries; THEODOLITES; SURVEYOR'S LEVELS; 3,000 Ammeters; Voltmeters and Wavemeters; Tool Kits; Small Tools; Service Clothing; Furniture; and numerous Catalogues, 1/- each admitting two persons on view days (Wednesday, Thursday, Friday and Monday preceding Sale) and one on Sale Days, may be had, when ready, from the AUCTIONEERS' OFFICES, Dept. 13, 10 Lloyds Avenue, London, E.C.3.

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measuring 10ft. x 10ft., 24ft. 6in. x 19ft. 6in., 36ft. x 19ft. 6in. and 6ft. x 10ft. x 6in.; Four 500-gallon Water Storage Tanks, on Tubular Steel Frames; Sanitary Fittings; Two Pairs Chain Link Mesh Entrance Gates; 660yd. of Chain Link Fencing with Angled Iron Posts.

R. C. KNIGHT AND SONS will offer for SALE by AUCTION, by Direction of the War Office, on WEDNESDAY, AUGUST 30th, 1961, commencing at 11 a.m. Catalogues from the Auctioneers, 2 Upper King Street, Norwich (Telephone 27161).

By Order of Richard J. Ford, Esq., F.C.A., Receiver for the Debenture Holders, Re: H. Minto and Co. LTD., CHATHAM ROAD, MAIDSTONE.

HENRY BUTCHER AND CO. are instructed to offer for SALE by AUCTION in lots at the WORKS on THURSDAY, 7th SEPTEMBER, 1961, at 1.30 p.m. in the CONTRACTORS' PLANT AND EQUIPMENT

including

OSGOOD 11-yd. EXCAVATOR; DINKIN DIGGERS and EQUIPMENT; ALLEN-PARSONS 16/60 and 12/21 TRENCHERS; SMITH 2/10 and 4/14 EXCAVATORS; CATERPILLAR D4 TRACTOR and DOZER EQUIPMENT; ROCK DRILL GRAB; Portable PAVING EQUIPMENT; BRAY ROAD SMOOTHING SHELL; AIR COMPRESSOR; BENFORD DUMBERS; 10-ton STEAM ROLLER; VIBRATORS; Rammers; Contractors' Hand Tools; STOTHERT AND PITTS and DIXON ROLLERS; CONCRETE MIXERS; Roadforms; Shoring; Railway Sleepers; Drain Testing Equipment; B.L. and AUSTIN TRAILERS, TRAILERS and VANS; AUSTIN and JAGUAR SALOON CARS; BEDFORD 1,000-gallon BOWERS; CARAVANS; OFFICE FURNITURE and SURVEYING INSTRUMENTS.

Catalogues (when ready) may be obtained of Messrs. McCABE AND FORD, Chartered Accountants, Market Place, 12, Hart Street, Maidstone, and of Messrs. HENRY BUTCHER AND CO., 73 Chancery Lane, London, W.C.2. Telephone: HOLborn 8411 (8 lines).

## DIVING

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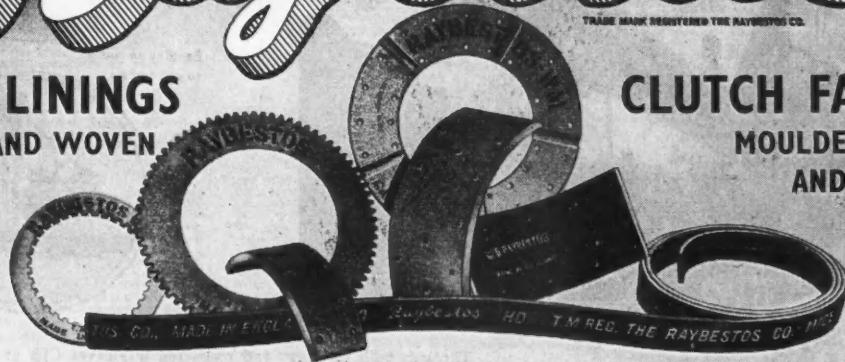
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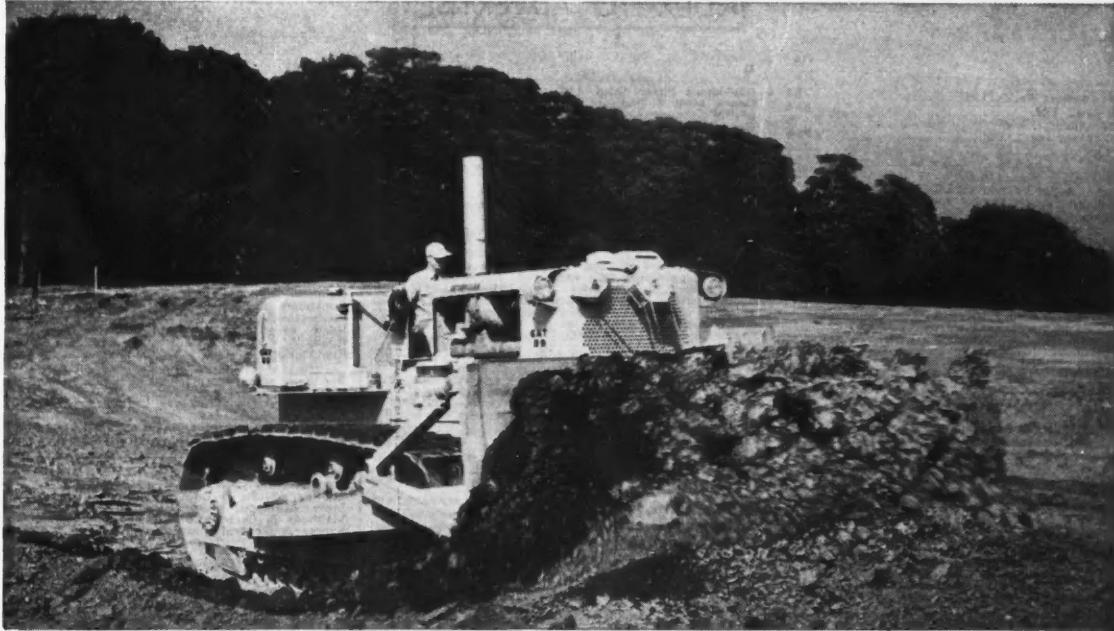
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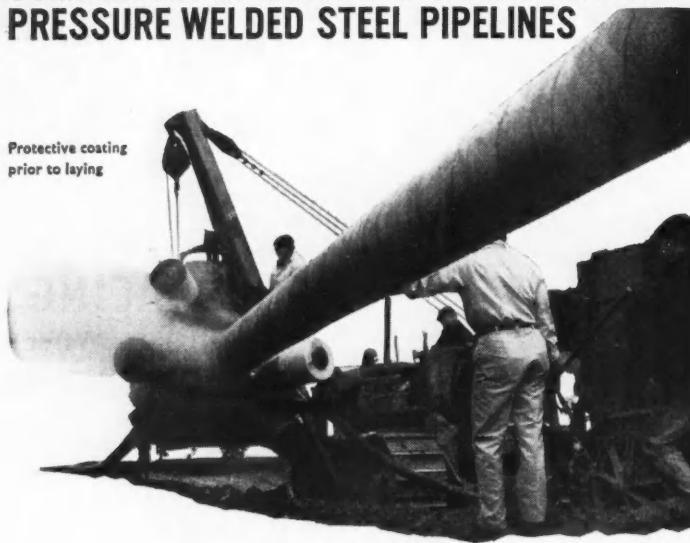
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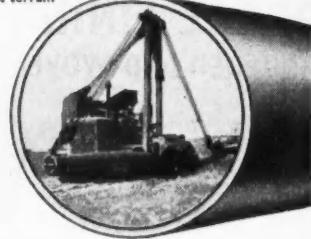
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## Advertisements received too late for Classification

### ROYAL COUNTY OF BERKSHIRE. MAIDENHEAD BY-PASS. M.4.

#### SURFACE WATER MAIN.

TENDERS are invited for the CONSTRUCTION of a SURFACE WATER DRAIN along the verge of the Maidenhead By-Pass M.4.

The Works comprise the Excavation for, Provision and Laying of varying sizes of Pipes from 18in. dia. to 33in. dia., together with the Construction of Manholes and other appurtenant works, in all, a total length of approx. 1.85 miles.

The Drawings will be inspected at, and Conditions of Contract, Specification, Bills of Quantities and Form of Tender obtained from, the Office of the COUNTY SURVEYOR, Shire Hall, Reading, on payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be returned, in the envelope provided, not later than 12 Noon on FRIDAY, 1st September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

### CITY OF BATH. PROPOSED SEWER—WHITEWAY ROAD, BATH.

TENDERS are invited for the CONSTRUCTION of approx. 180 yd. of 6in. dia. STONEWARE PIPE and Four Manholes and Bricks, together with appurtenant works on the ABOVE SITE.

Conditions of General Conditions of Contract may be inspected at, and copies of the Specification, Bill of Quantities and Form of Tender may be obtained from, the Office of the City and Waterworks Engineer, Guildhall, Bath, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered, in the envelope provided, not later than 10 a.m. MONDAY, 4th September, 1961, to the Town Clerk, Guildhall, Bath.

The Corporation do not bind themselves to accept the lowest or any Tender.

JARED E. DIXON,  
Town Clerk.

Guildhall,

Bath.

11th August, 1961.

### BLABY RURAL DISTRICT COUNCIL.

#### ROADS AND SEWERS.

THE KEEP, KIRBY MUXLOE—CONTRACT NO. 35.

STAMFORD CLOSE, GLENFIELD—CONTRACT NO. 36.

OAK FARM ESTATE, BLABY—CONTRACT NO. 37.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of SEWERS and CARRIAGeways on the ABOVE SITES.

Particulars and Forms of Tender may be obtained from, the Surveyor and Engineer and Surveyor, at the address below.

The Council do not bind themselves to accept the lowest or any Tender.

Sealed Tenders, in a plain envelope endorsed "Roads and Sewers—Contract No. 35," to be addressed and delivered to the undersigned not later than 10 a.m. on MONDAY, 11th September, 1961. If these conditions are not complied with, the Tender will be invalid.

THOMAS HEAP,  
Clerk of the Council.

Council Offices,

Narborough, Leics.

14th August, 1961.

### WEST SUSSEX RIVER BOARD.

#### APPOINTMENT OF SENIOR ASSISTANT ENGINEER.

GRADE IV-V (£1,140-£1,480).

Applicants must be chartered civil engineers and have good experience on the design of flood relief, drainage and embankment works. The appointment is subject to the Local Government Superannuation Acts and to the successful candidate passing a medical examination.

Applications, stating age, qualifications, experience, previous appointments, and the names of two referees, should be sent to the Chief Engineer, West Sussex River Board, County Hall, Chichester, not later than 9th SEPTEMBER, 1961.

T. C. HAYWARD,  
Clerk to the Board.

**SENIOR BUILDING ESTIMATOR.** Permanent vacancy for fully trained Estimator for progressive national building and civil engineering contractor operating throughout the Midlands and South. Previous experience with similar contractors covering all types of building work up to £1m. in value, and able to work on own initiative, and can show recent past successful results. Suitable terms and conditions will be offered to the selected applicant. Strict confidence will be observed to all applications.—Write to Box V.4677. "The Contract Journal."

**CIVIL ENGINEER.**—Fully experienced Measuring Engineer REQUIRED for important contract near Edinburgh. Please state age, qualifications and experience. Salary range £1,100 to £1,500, depending on experience.—Write to Box V.4683. "The Contract Journal."

**SITE CLERK.** for contracts in London area. Permanent and pensionable for right man.—Write, stating age, experience, and salary required to Secretary, FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

**CONTRACT SUPERVISOR.** for our smaller building and civil engineering contracts locally, to control work from setting-out to monthly statements. Car provided.—Apply GEORGE LAW, LTD., Kidderminster.

**SENIOR SURVEYOR.** Progressive national building contractors have vacancy in their Midlands office for fully experienced Surveyor able to work on own initiative for large building contracts, valuations and accounts, sub-contractors, etc. Previous proven record in similar work essential. The position will carry generous terms and conditions. All applications will be treated in confidence.—Write to Box V.4676. "The Contract Journal."

**WELFARE AND LABOUR OFFICER.** Applications are invited from men with a good education and possessing a pleasing personality, and trained, with national building and civil engineering contractors. Age range 26-36 years. Experienced in the recruitment of operatives for contracts, and dealing with their terms and conditions, records and welfare work, and generally to assist the Personnel Manager. This is a permanent position, with prospects for the successful applicant.—WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton.

### FLINTSHIRE COUNTY COUNCIL.

#### QUEENSFERRY BY-PASS LIGHTING.

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Forms of Tender obtained from the County Surveyor, Llwyngron, Mold, to be returned to me, in a plain sealed envelope endorsed "Queensferry Lighting," before 12 Noon, MONDAY, 4th September, 1961.

W. HUGH JONES,  
Clerk of the County Council.

County Buildings,  
Mold.

### BOROUGH OF EPSON AND EWELL.

#### PRIVATE STREET WORKS.

HUNTSMOOR ROAD, EWELL  
(INCLUDING THE FRONTAGE TO 141 RIVERVIEW ROAD).

The CORPORATION invite TENDERS from public works contractors for the EXECUTION of PRIVATE STREET WORKS at the ABOVE-NAMED STREET, comprising Concrete Carrageway, Tarmacadam Footways, Kerbing, Pavement Crossings and Verge, etc.

Conditions of Contract may be inspected at, and copies of the Plans, Specification, Bills of Quantities and Form of Tender obtained from, the Office of COLIN COBBETT, M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, Epsom, working hours, upon payment of a deposit of £2 2s. Details of Tender to be returned to contractors submitting bona-fide Tenders not subsequently withdrawn.

Tenders must be delivered to me, at the address mentioned below, not later than 12 Noon on MONDAY, the 11th September, 1961, and no Tenders will be received and considered unless they are enclosed in a plain sealed envelope endorsed "Tender for Private Street Works—Huntsmoor Road, Ewell."

This envelope must not bear any mark or name indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,  
Town Clerk.

Town Hall,  
The Parade,  
Epsom.

August, 1961.

### MALVERN URBAN DISTRICT COUNCIL.

TENDERS are invited for the FOLLOWING:

(1) Shuttlefast Sewerage Scheme—The works comprise the Construction of approx. 5,780 lin. yd. of 18in. to 6in. Sewers in Concrete Tube, Asbestos-cement Tube and Iron Pipe, together with Precast Concrete Section and Brick Manholes and ancillary works.

(2) Foul Sewer, Worcester Road—The works comprise the Construction of approx. 360 lin. yd. of 6in. dia. Sewer in Concrete Tube, together with Precast Concrete Section and Manholes, and ancillary works.

Drawings may be inspected at, and Conditions of Contract, Specification and Bill of Quantities and Form of Tender may be obtained from, the Office of the Surveyor and Water Engineer, The Council House, Malvern, on payment of a deposit of Five Guineas (cheques to be made payable to Malvern Urban District Council), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tender, in envelope provided, must be received by the undersigned not later than 10 a.m. on FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

I. BULMAN,  
Clerk of the Council.

The Council House,  
Malvern.

14th August, 1961.

### SOUTHBOROUGH URBAN DISTRICT COUNCIL.

#### RECONSTRUCTION OF YEW TREE ROAD.

TENDERS are invited for the RECONSTRUCTION of YEW TREE ROAD, Southborough (Class III)—approximate length 909yds.

Specification, Plans and Form of Tender may be obtained from the Surveyor, Council Offices, Southborough, Tunbridge Wells, on payment of a deposit of £2 2s.

Tenders, in plain sealed envelopes endorsed "Tender for Yew Tree Road," to be delivered to the undersigned not later than MONDAY, 11th September, 1961.

J. R. NICHOLSON,  
Clerk of the Council.

Council Offices,  
Southborough,  
Tunbridge Wells,  
Kent.

**GENERAL FOREMAN REQUIRED** to run building contract at Dartford. Permanent position in London area for man capable of organising contracts up to £200,000.—Applications in writing to C. J. SIMS, LTD., 2 Victoria Street, S.W.1.

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Drawings may be inspected at the office of County Divisional Surveyor, Bury Fields, Guildford.

Documents from COUNTY ENGINEER, returnable by 9th SEPTEMBER, 1961, in plain sealed envelope endorsed "Hindhead Improvement," to Clerk of the Council, County Hall, Kingston-upon-Thames.

### BOROUGH OF WREXHAM.

#### SUPPLY OF BOILER SUITS AND OVERALLS.

Form of Tender from the Borough Engineer and Surveyor, The Guildhall, Wrexham, to be returned by the 9th SEPTEMBER, 1961.

P. J. WALTERS,  
Town Clerk.

The Guildhall,  
Wrexham.

### BOROUGH OF SOUTHALL.

#### CONTRACT NO. 989.

RECONSTRUCTION OF THE GREEN (KINGSTON ROAD TO BRIDGE ROAD); RESURFACING OF STATION BRIDGE.

TENDERS are invited from competent contractors for the ABOVE CONTRACT. The Work will involve Removing, to a maximum depth of 18in., approximately 1,350 sq. yd. of Tarmac Carrageway; Laying approximately 1,350 sq. yd. of 9in. Reinforced Concrete Raft, Resurfacing approximately 2,500 sq. yd. of Tarmac Carrageway to a depth of 3in., and Resurfacing the whole with 3in. of Rolled Asphalt in Two Courses.

Contract documents and further details can be obtained from the Borough Engineer and Surveyor, receipt of a bona-fide Tender.

Tenders must be received by the undersigned in the envelopes supplied not later than Noon on THURSDAY, 7th September, 1961.

J. S. SYRETT,  
Town Clerk.

Town Clerk's Office,  
South Road,  
Southall.

August, 1961.

### BOROUGH OF WANSTEAD AND WOODFORD.

#### ASSISTANT WORKS SUPERINTENDENT.

A.P.T. II (£815-£960, PLUS LONDON WEIGHTING).

APPLICATIONS are invited for this ESTABLISHED APPOINTMENT at a salary within the above grade. Experience in the administration of transport will be advantageous and training will be provided for the successful applicant to carry out his duties.

The Council is prepared to assist the successful candidate in the provision of housing accommodation. Applications, on forms to be obtained from the undersigned, and to be returned by First Post on 31st AUGUST, 1961.

L. F. JEFFERY,  
Municipal Offices,  
High Road,  
E.18.

### Gwynedd River Board.

#### APPOINTMENT OF FOREMAN MECHANIC.

The Board invites APPLICATIONS from suitably qualified MECHANICS for the POST of FOREMAN in their workshops at Dinas, near Caernarvon. Applicants should have served their apprenticeship in an engineering works, and should have extensive experience in repairing and maintaining all types of excavators, tractors and other earthmoving equipment; also all types of motor vehicles. The post is Rate of pay, £12 4s. 3d. per week.

Forms of application can be obtained from the undersigned, and should be returned by 9th SEPTEMBER, 1961.

ALWYN H. JONES,  
Chief Engineer.

Highfield,  
Caernarvon.

**A GENT REQUIRED** by civil engineering and building contractors operating in Southern England, for control of contracts up to £100,000. Young and energetic. Continuity of work is available in an organisation where prospects are directly related to ability. The initial appointment is for a trunk road development at Redhill, Surrey.—Write, giving age, experience, and salary required, to NICHOLSON CONSTRUCTION CO., LTD., Freeland House, Cranleigh, Surrey.

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**A GENT WANTED** for concrete piled sea outfall in South Wales. The appointment will be a permanent one, and offers excellent prospects to a keen young engineer. Write, giving previous experience of piling work.—Write in confidence to Box V.4612. "The Contract Journal."

**EXPERIENCED CLERK OF WORKS REQUIRED** for supervision of building of multi-storey store and office buildings in Southend, Essex. Salary between £1,250-£1,500 p.a., according to experience and ability.—Apply in writing, stating age and experience, to YORKE, ROSENBERG AND MARDALL, 2 Hyde Park Place, W.2.

**SITE CLERK REQUIRED** for interesting contract work. Must be fully conversant with W.R.A., daywork accounts and costing procedure. Permanency and promotion for right man.—Write, giving full details, to Box V.4678. "The Contract Journal."

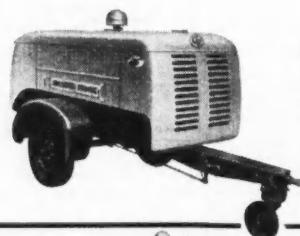
**APPLICATIONS** are invited for the APPOINTMENT of an ENGINEERING ASSISTANT to work under the direction of the County Surveyor, Merton, involved in the engineering section of an architect's office. The work would provide experience in large-scale housing development involving roads, sewers, small disposal plants and pumping stations. Details of salary and conditions of service to be agreed.—Apply CHARLES E. MASON AND RICHARDS, Chartered Architects, 4 Tettenhall Road, Wolverhampton. Tel. 27243.



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 and  
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 Established 1879

No. 4,286 Vol. CLXXXII August 17, 1961

Editor:  
 LAWRENCE McCARTHY

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**THAT UNBIASED ADVICE**

THE latest figures show that the offices of private architects and consulting engineers are extremely busy. Members of the Association of Consulting Engineers have in their care contracts in Britain valued at more than £1,000m. Commissions to private architects rose 25% in 1960 to over £1,200m. Such figures are of comforting proportions, and yet both the private architect and the independent consulting engineer must view their respective futures with certain misgivings. Private architects, for example, handle only about 30% of the building work in Britain, and there is little indication that they are improving their position. And the number of qualified civil engineers in public service outnumber those in private practice, and the position is the same in the architectural profession.

But, while the consulting engineers have their own association to represent their interests, no such organisation has yet been established for private architects. Furthermore, the civil engineer may move without let or hindrance from design to work in the field. Indeed, the student engineer must be able to prove experience of both if he is to qualify, and he may obtain his practical experience with contracting firms. Architects, on the other hand, have only recently been permitted to work for contracting firms, although the freedom to become a director is still withheld and they still train exclusively in the design office.

It may, therefore, be true that private architects are less well placed to protect their interests than independent consulting engineers. It certainly seems to be a fact that local authorities are less inclined to use the services of private architects than those of independent consulting engineers. A recent inquiry to local authorities revealed an unexpectedly strong body of opinion against the use of private architects and, if anything, this opinion grew stronger as the authorities diminished in size.

The major challenge to both professions, however, comes from the package deal. And the growth of the package deal is partly a reflection of the need for more integration between design and construction, but to a greater extent the result of a demand for faster construction on the part of some clients. It can be argued that mature thought and consultation with the client at every stage of design ultimately produces the best results. But the delay between the receipt of instructions from the client and the actual commencement of work on the site had under the traditional time table become a matter of months or even years. In contrast, one contractor operating the package deal reckons to produce an outline scheme and budget estimate in about four weeks and a firm estimate in six or seven weeks. This contractor also claims that provided the specification remains unaltered by the client there will be no variations at the end of the contract.

It is, of course, true that where a client uses the package deal he either forgoes the check on costs provided by competitive tendering or is faced with the problem of adjudicating on prices based on different designs. He may, therefore, still require some independent professional advice, and it is an interesting thought that under the package deal system the impartial position at present occupied by the architect or consulting engineer may be taken over by the independent quantity surveyor.

Many variations of the package deal theme are possible. Procedures have been devised whereby the independent status of the architect or engineer is preserved, but the advice and experience of the contractor is brought in at an early stage. And in order to reduce the time required for the design stage under the traditional system, the professions are reorganising their procedures so as to speed up the production of the necessary contract documents so as to enable an earlier start of the work on site.

So much has been said about the package deal in recent times that its actual impact may be less than might be imagined. It does, however, meet the special needs of certain clients and there will always be a place for it. And, of course, the ultimate decision is with the client. In this respect, both the private architect and the independent consulting engineer may be at a disadvantage because rules of professional conduct prohibit them from advertising. Prospective clients may not, therefore, be fully aware of the advantages of what the Association of Consulting Engineers, quoting Shakespeare, defines as "that unbiased advice that saves unforeseen and supplementary costs."

## CONSTRUCTION OF ROUND HEADED BUTTRESS DAM AT MACCLESFIELD

### Lamaload Scheme Will Impound River Dean Water

**A**BOUT three and a half miles north-east of Macclesfield, work is in progress on the construction of a concrete round headed buttress dam which will impound water from the River Dean. This is Macclesfield District Water Board's Lamaload Reservoir scheme to provide a water storage of 435 million gallons, drawing from a gathering ground of 1,000 acres.

The dam is 610ft. long and has a maximum height of 143ft. It is founded in the shale grit below Kinder Scout grit in the upper carboniferous formation. These strata consist of alternating bands of shales and grits which dip downstream at a slope of 2 in 5. At the dam site the lower sides of the valley are formed in a 75ft. stratum of shale which is expected to be virtually impervious to water. The strata above and below this layer will be grouted to oppose the passage of water through them.

Water will gravitate through treatment works downstream of the dam, and will then be fed to two new service reservoirs and one existing reservoir for distribution. The elevation of the dam will save a considerable amount of pumping within the area of supply. Work started on the site in the summer of 1960 and is due to finish in the summer of 1962.

#### Design

It was originally intended to build an earthen embankment on the site, but trial boreholes, aggregating 1,213ft. in length, revealed far more grit than was anticipated and very little soft shale. Consequently it appeared more economical to construct a concrete dam, particularly as it might have been difficult to find sufficient earth fill in the immediate vicinity of the site.

Four kentledge tests were carried out: two on shale and two on sandstone. Three tests recorded 70 tons/sq. ft. without failure, and the fourth at first failed at 45 tons/sq. ft. due to a plate bearing on a slab between two large fissures. It was tested again 18in. deeper and 70 tons/sq. ft. was obtained. It was therefore assumed that loads of up to 25 tons/sq. ft. could be carried by the strata with safety and

some form of buttress design was feasible.

A multiple arch dam was first considered, but some apprehension was felt that there might be unequal settlement of neighbouring buttresses owing to the differing elastic characteristics of the shale and the grit. Such unequal settlement

However, the variable strata caused these types to be rejected.

The chord/height ratio of the valley at 5 to 1 was rather high for a single arch dam, even if it were felt that the variable rock in the abutments had been strong enough to take the thrust of an arch.



Upstream of buttress No. 8, showing excavation in shale for head and concrete in tail

would have induced dangerously high concentrations of stress in the thin arches between the buttresses. In the end a round headed buttress design was adopted, which presented a similar downstream appearance to a multiple arch dam.

Some consideration was also given to the possibility of constructing either a prestressed concrete dam, or a cupola dam.

The estimated relative costs, including contingencies, of the various types of dam for this valley were: Earth dam, £620,000; concrete—massive gravity, £600,000; single arch buttress, £475,000; multiple arch, £450,000.

#### Grouting Programme

The buttresses in the deepest part of the valley are founded close to the junction of the thick sandy shale and the sandstone beneath. In this section fairly substantial grouting of the underlying sandstones is envisaged. As the dip of the strata is downstream and is greater than the slope of the valley, there should be considerable resistance to any passage of water under the dam except perhaps as deep percolation.

Some 15,000ft. of drilling with an injection of 750 tons of cement are envisaged in the main grout screen.

Higher up the sides of the valley it will be necessary to inject the four minor sandstone seams above the thick sandy shale, and probably the intervening shale beds. Each stratum may have to be grouted separately.

To prevent possible losses of water around the ends of the dam a wing grout curtain will be provided on each flank, to seal off the grits above the thick sandy shale. As the dip of the strata is downstream, these grout screens will run in an upstream direction. The length of wing curtain is expected to be about 300ft. and 150ft. respectively on the left and right sides of the valley looking downstream.

Much fine material, of the consistency of clay, from the excavations is being deposited immediately upstream of the dam in the deepest part of the reservoir, over the outcrop of the fissured sandstones below the thick sandy shale. This should



View from upstream right flank

act as an upstream blanket and hinder deep percolation from the reservoir.

#### Compensation Water Provision

The gathering ground lies entirely in an "upland area" and includes the catchments of two side streams upon which intakes will be built, and the flows piped into the reservoir. A normal flood of up to 1,250 cusecs is anticipated.

The overflow structures on the left bank of the valley were designed to control flows of up to 1,600 cusecs and a hydraulic model was found to act satisfactorily with floods of up to 2,000 cusecs with 4ft. over the sill.

The lowest flow in the river recorded for several days in October and November 1955 was 199,000 g.p.d. for a catchment of 810 acres or 0.46 cusecs per 1,000 acres. In July, 1957, the dry weather flow fell to 123,000 g.p.d. or 0.28 cusecs per 1,000 acres.

The statutory requirements for compensation water are:

- (i) a minimum flow of 150,000 g.p.d. to be recorded at all times at gauging station No. 1 just below the treatment works;
- (ii) a minimum flow of 730,000 g.p.d. to be recorded at all times at gauging station No. 2 at Clough Pool about six miles downstream of the dam;
- (iii) if the flow at Clough Pool falls below 730,000 g.p.d. the compensation water at the treatment works to be increased accordingly up to a maximum of 400,000 g.p.d. measured at gauging station No. 1.

The minimum flow of 150,000 g.p.d. will be controlled automatically by a float valve, but higher flows will have to be manually regulated at the treatment works where indicators will be fitted showing the discharge passing both gauging stations.

#### Construction Works

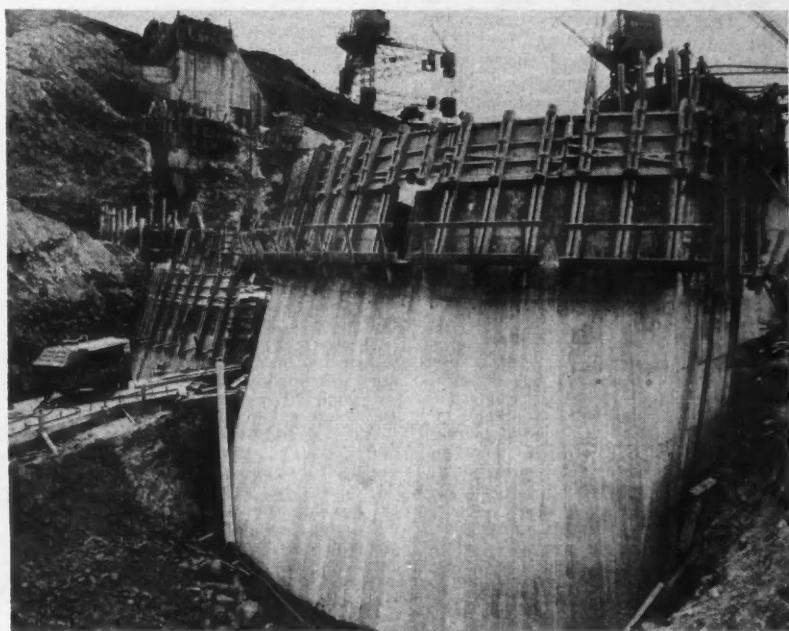
The whole of the works is commanded by one 10-ton derrick in the valley bottom and two 7-ton derricks.

At the start of the works the stream was diverted to pass over the site of buttress No. 7, while buttress No. 6 is constructed up to a level of about 908 O.D. A cast-iron bulkhead will be fitted at this level in the head of buttress No. 6 when impounding begins. When buttress No. 6 has been completed to 908 O.D. the stream will be diverted back into its original channel and through the aperture left in buttress No. 6. Work will then begin on buttress No. 7.

The concrete batching plant is situated on the right bank of the valley, and the mixed concrete is carried in skips by light railway on a bridge across the valley. The skips are then picked up by one or the other of the derricks and the concrete is placed in the required position.

The bulk of the dam is being con-

The lighter sections of the work, such as the wave wall, bridge over the overflow, and the overflow culvert will be constructed in 1:2:4 mix concrete using normal Portland cement, and Bunter sandstone aggregates, except where an exposed aggregate finish is required, when Whaley Bridge grit will be used. The actual



Close-up of buttress No. 6 head

structed in 1:2½:5 mix concrete using Bunter sandstone aggregates and low heat Portland cement. The coarse aggregate is graded 2½in. to ½in. and the actual mix is 112lb. cement, 3 cu. ft. sand, 6 cu. ft. coarse aggregate.

The downstream face of the dam, including the ends of the buttress is to have a facing layer of special concrete to satisfy the requirements of the Peak Park Planning Board. This layer is cast integrally with the main concrete and is of the same mix except that the coarse aggregate is Whaley Bridge gritstone. The aggregate is exposed by air and water jets on the day following placing.

specified proportions of the mix are 112lb. cement, 2½ cu. ft. of sand, 5 cu. ft. of coarse aggregate.

Construction joints between buttresses are sealed with 12in. wide extruded rubber water-stop with centre bulb, set 3ft. downstream of the water face. Situated 3ft. downstream on the water-stop is a 9in. diameter hole extending from the broad foundation to the walkway, which is filled with a rubber-bitumen compound as the construction of the dam proceeds. Wrought-iron steam pipes are embedded in the rubber-bitumen in case the joint needs remaking in the future. These two

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Construction area seen from upstream left flank

## An Economist Comments . . .

### 1958 OVER AGAIN?

DO the Chancellor's latest measures mean a return to the conditions of 1958? That is probably the question on the lips of most contractors. For 1958 was one of the most difficult in the post-war history of the industry. The volume of work in hand had fallen by almost one fifth from its level of 1955. The number of new orders coming forward had dried up alarmingly with inevitable repercussions on profits, recruitment, investment by the industry in new machinery, and on contractors' ability to plan their work programmes on anything approaching an efficient basis.

The answer to the question is doubtlessly "No"; but there are a lot of ifs and buts. I do not subscribe to the view that the industry can brush aside the latest measures. For one thing, since Mr. Lloyd referred to contracting in broad terms only, it is difficult to estimate what their precise effect will be. For another, he slipped in a threat that even stronger action affecting the industry might be taken should the present measures not go deep enough.

Nor, on the other hand, do I consider that the Chancellor should be condemned out of hand for using contracting once again as an antidote to general economic malaise. He had to do something, and it is clearly impracticable to leave any one industry untouched; particularly one like construction, which functions everywhere and in every economic sphere.

#### Three Problems

The Chancellor faced three major problems. His immediate concern was to put a stop to speculation against the pound. Next, he had to achieve a substantial overall surplus to bolster up the balance-of-payments and avoid a sterling crisis. Third, a dual task, he had to find a way through the immediate difficulties and, at the same time, cope with the more fundamental problems of long-term growth and price stability. As an immediate palliative he has chosen to introduce an element of deflation through a mixture of fiscal and monetary measures, the like of which has not been seen in Britain before. These measures have been coupled with more direct action to reduce investment demand. If these early steps appear essentially negative they may, nonetheless, gain time to evoke a plan for coping with the problems of longer term. These include making British exports more competitive in world markets, the better control of public expenditure, restrictive practices, and the whole question of productivity and wages in an expanding economy.

#### Load on the Industry

Now we all know that the contracting industry has recently been operating at a very high pitch indeed. The term "overload" has crept into almost every authoritative review, official or unofficial; and I know that a number of contractors would not quibble at this definition, although the industry has, generally speaking, been coping very well. Those who argue that the industry has more work than it can manage can point to some convincing evidence. New orders have been coming in at an even faster rate than last year.

#### New Orders Obtained By Contractors

	(£m. current prices)		
	1960	1961	
	1st qtr	4th qtr	1st qtr
New housing	193	191	203
Public	61	69	73
Private	132	122	130
Other new work			
Public	131	125	157
Private industrial	82	85	83
Private miscellaneous	67	72	78
Total new work	473	473	521

Allowing for price changes, the total for all new work orders in the first quarter of 1961 was about 5 per cent. up on a year ago. This was due primarily to substantial increases in the public sector—£12m. for housing and £26m. for other new work. Miscellaneous work for private developers also rose by £11m. At the end of June, there were 298,477 houses under construction, almost a record. Private builders had under construction 141,445 houses, their highest number yet, and there are complaints that the construction time on local authority housing is lengthening. Similarly, there has been a marked increase in the volume of school building work under construction and, of course, the other accelerated programmes like roads and hospitals have been adding to the pressure.

However, that is not the whole picture by any means; as I say, there are some not inconsiderable achievements to be set alongside. First and foremost, whatever may be the case in individual concerns, there is no mistaking the message of the official figures; overall construction output is rising, and rising fast. In 1960 it was 6 per cent. higher than in 1959 and the rise has continued into 1961. In the first quarter of 1961, the volume of new housing work done by contractors was 5 per cent. more than a year earlier; all the increase was for private developers. Housing accounts for about one-third of new contracting work. The other two-thirds were 13 per cent. higher in the first quarter than a year earlier; for public authorities the increase was 6 per cent., for private industrial developers 26 per cent., and for other private developers, 9 per cent. Construction is, in fact, the main growth element in the economy, and has been described as such. This, in itself, should cause any Chancellor to hesitate before indulging in a "tap-turning" exercise on the industry.

#### Construction Output

	(1954=100)			
	1st qtr	2nd qtr	3rd qtr	4th qtr
1959	106	111	113	116
1960	115	117	118	121
1961	121			

A little surprisingly, perhaps, the construction labour force has also continued to increase; it may be due to the influx of foreign labour. In May this year it was 30,000 (3 per cent.) greater than in May 1960. Even so, apart possibly from Scotland and the North East, the acute shortage of skilled craftsmen has continued.

Materials production, though still tending to hinder output on the sites, also seems to be improving. Brick output in January-May was some 2 per cent. up on the corresponding period of 1960; brick stocks at the end of May were 50 per cent. higher than a year earlier and new capacity is due to become available later in the year. Cement output has also increased substantially even if it is still insufficient. It seems that the cement manufacturers could have underestimated the increased demand fostered by, for example, the more widespread use of reinforced concrete; although like bricks, further capacity should shortly be in use. There are signs, too, that steel supplies, including reinforcing rods, are set for an improvement.

#### Over the Crest?

So much for the present load on the industry. What would have happened had not the Chancellor intervened? On the evidence so far available, it could well be that any excess demand on the industry was about to right itself. A decline in total investment by manufacturing industry during 1962 is now likely. Factory building approvals have fallen sharply in both the first and second quarters of 1961; in the second quarter

they were not significantly higher than the lowest point reached in 1958 and it seems that the investment boom has shifted from the building of factories to the machinery going into them. Of even greater significance, the overall level of architects' new commissions has fallen sharply compared with a year ago. These and other considerations, such as the availability of land and mortgage finance, suggest that the construction boom may be passing its peak; that any excess steam might have evaporated by 1962.

#### Chancellor's Measures

Against this background the fear is, of course, that the new measures will do more than contain the construction boom; they could endanger confidence and even promote recession. However, taken at their face value, they neither look unduly harsh nor are they beyond reversal at short notice should the need arise.

Contracting should suffer no more than other industries from the surcharges on indirect taxes; it will certainly fare a great deal better than some. Petrol prices have gone up and timber prices could be affected. The surcharges are expected to raise the Index of Retail Prices, to which building and contracting wages are linked, by about 1½ points and an additional 1d. an hour on this account next February now looks likely. At the same time, it is probably too much to expect the Government to achieve much success over wage restraint. I still stand by my forecast of three or four months ago that construction basic wage rates will rise by about 3d. an hour in 1962.

Contractors rely so much on their banks for overdraft facilities that the steep rise in Bank Rate and the restrictions on bank lending (reinforced by the additional special deposits required from the commercial banks) could indeed prove awkward. Some rise in costs on these two counts seems inevitable—unless, perhaps, something can be done to reduce the huge sums owed to contractors from their clients. The 7 per cent. Bank Rate, together with the curtailment of credit, could also obliterate or postpone a number of "marginal" construction projects as well as create difficulties for work in progress.

The Chancellor's statement was not easy to interpret, as many commentators have pointed out, and his references to "speculative" building were probably the least clear of all. Private house-builders are now completing some £400m. worth of work annually, or roughly one-quarter of the total new work programme. Yet no one in official circles seems to have the slightest idea whether or not the Chancellor's definition of "speculative" included private house building. All that is so far known for certain is that office building and property development are to be frowned upon, very severely. Some £65m. worth of commercial offices are completed each year.

A ruling on this naturally affects the position of the building societies since it will influence the number of mortgagable houses coming forward. The societies are certain to feel the effects of the suspension of the Government's 1959 House Purchase Scheme, from which they have now drawn over £56m. Mortgages for owner-occupation have been getting less and less easy to obtain for some time and to attract alternative funds the societies may be forced into raising their interest rates quite substantially. At present, though, they appear content to wait and see. One thing they will be watching for is any changes upwards in the interest rates of the National Savings Movement.

In the public sector we know that new authorisation and loan sanctions to local authorities are to be reduced and that there is to be some re-arrangement of

(Concluded on page 817)

## RAPID CONSTRUCTION OF MERSEYSIDE FACTORY

### 422,000 sq. ft. Building for Fisher and Ludlow

ONE of the fastest construction projects in the north west is due for completion in the autumn at Kirkby, near Liverpool. This is the 422,000 sq. ft. domestic appliances factory for Fisher and Ludlow, Ltd., on which work was started last May. Already seven of the 17 bays in the main production building have been handed over.

A big contributory factor to the speed attained is the regular meetings between the main contractors, Holland & Hannen and Cubitts (North West), Ltd., and their 40 sub-contractors, which are closely linked with further meetings between the contractors and the architects, Harry W. Weedon, F.R.I.B.A., and Partners, and the client, Industrial Estates Management Corporation for England. In this way the various problems on site are ironed out as they arise and everyone connected with the contract has an up-to-the-minute picture of progress.

The factory is on a 50-acre site bounded by South Boundary Road, Coopers Lane and Hornhouse Lane. It occupies 30 acres, and comprises a main production building with an adjoining single- and two-storey works office annex, east and south ancillary blocks, executive block and canteen, reservoir and effluent treatment plant and an electricity sub-station.

#### Site Work

When work started on the contract at the end of May last year, the first task was to excavate over 100,000 cu. yd. of earth. This job was tackled by three D8 Caterpillar tractors using 13 cu. yd. scraper boxes. As part of the sub-soil was suitable for use as a filling material, a portion of the contract was executed on a "cut and fill" principle, using the same three scrapers.

While this work was progressing, excavators dug drain trenches for the foul and surface drainage system. More than two miles of drains had to be installed and several excavators were kept in continual use.

Rock occurred on the site at a reasonably shallow depth and a number of the trench runs had to be blasted. The weather during the early summer of 1960 was favourable, however, and the main drain runs were completed on time.

As the structural steelwork for the main production building had to go up in the shortest possible time, two large Scotch derricks were brought on to the site. They were electrically driven on two tracks along the full length of the building. A mobile crane used on the adjoining office annexe also helped with assembly at ground level of the roof trusses.

#### Production Bays

The next task was to erect 17 plant bays in the main production building in only 17 weeks. This necessitated exceptionally close liaison between Cubitts' team of excavators and joiners, the structural steel erectors provided by Redpath Brown, Ltd., roof glaziers and window fixers provided by Henry Hope, Ltd., and the roof sheeters and vertical asbestos sheeting fixers provided by Sinclair's (Steel Erectors), Ltd. By working together as a team and with each group of workers following on behind the other as soon as each stage of the task had been completed, the bays were erected exactly according to schedule.

During the course of constructing the foundations for the structural steelwork, it was realised that the bases adjacent to the press pits in the main production building would have to be taken down to a depth similar to the press pits themselves. These foundation bases would therefore have to be excavated in rock to a depth of approximately 20ft. It was also realised that the pits themselves would

have to be excavated in the lower half in hard sandstone rock.

It was therefore decided temporarily to remove the soil overburden and bring in four mobile quarry drill rigs so that the whole of the press pit area could be drilled and then blasted. When this was done, the overburden was replaced to leave a level site for the Scotch derricks.

It had been decided originally that the press pits would be constructed during the later stages of the contract, but this work was brought forward so that the installation of presses could begin in April this year.

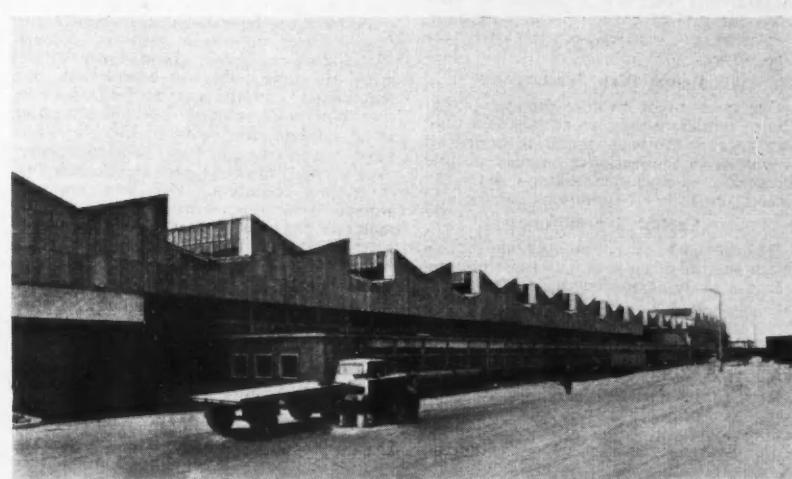
During the course of the contract, Fisher and Ludlow asked if the foundations for the paint and vitreous enamel shop could be constructed within three months so that plant could be installed as soon as possible. Additional men and equipment were brought to the site to avoid interrupting any of the other work which was being carried out and the foundations were completed within the time limit.

into the floor are the numerous plant bases. In the centre section of the factory these bases are for the modern paint and vitreous enamel plant and the bases at the west end are for the five reinforced concrete press pits. Four of these are 18ft. deep and 132ft. long, with floors 2ft. 3in. thick and walls 2ft. 6in. thick. Rails and conveyors are set in the bottom and the presses are mounted on structural steel-work and set at the top.

Running across the end of these four pits is a cross-conveyor pit 20ft. deep and sloping up to ground level at its southern end, where a scrap disposal unit is situated. The conveyor carries scrap off-cut metal to the disposal unit, thus eliminating the need for trucks to patrol the factory floor collecting waste metal.

#### Ancillary Buildings

The east ancillary building houses four oil-fired water-tube boilers and compressors, electrical switchgear, battery charging equipment and a fire station. At the rear are the oil tanks which feed the



Part of the 1,020ft. long main production building

All the buildings on the site are steel framed; the contract involves the use of more than 10,000 tons of structural steel-work, including five sets of overhead crane rails. To date, three of the five 50-ton overhead cranes have been positioned and the remaining two will be installed shortly. The contract also involves the use of about 25,000 cu. yd. of concrete. This has been mixed on site by two electrically driven machines with steel storage hoppers.

Running across the site is a 132,000-volt electricity supply line and an existing pylon supporting this will be dismantled so that the supply line can be re-routed on new pylons along the site boundary.

#### 1,020ft. Long Building

The main production building is 1,020ft. long and 300ft. wide. The 17 plant bays are each 60ft. long and 300ft. wide. Roofing is of asbestos Troseal and Bib-Six sheeting, insulated with aluminium foil and lined internally with Asbestolux.

Each bay of roof has two long runs of vertical glazing and the walls are made up of a top section of vertical asbestos, a middle section of vertical glazing and a lower section of facing brickwork. The first two bays in this main building were completed in March this year, only 10 months after site work started, and a total of seven bays were handed over by the end of June.

The floor comprises concrete sub-floor, either 6in., 8in. or 12in. thick, topped with a 1½in. layer of Granolithic paving. Set

boilers, and the main chimney stack. This building, which has a floor area of 26,587 sq. ft., is connected to the main production building by two overhead pipe gantries carrying the high pressure hot water pipes and compressed air pipes for the equipment in the factory area.

The south ancillary building with a floor area of 11,275 sq. ft. houses a paint strip and De-Vit. area, Bonderite store, paint store and a store for chemicals used in the treatment of effluent. Adjacent is a large effluent treatment plant comprising three concrete pits, each 15ft. deep and 60ft. long, together with appropriate plant rooms, etc. The south ancillary building and effluent treatment plant are connected to the main production building by a concrete underground tunnel, 500ft. in length.

At the west end of the site is a two-storey executive office block, measuring 293ft. by 41ft. with adjoining single-storey canteen and kitchen wing, 193ft. long and 136ft. wide. These buildings are steel framed and have an outer cladding of marble, exposed aggregate concrete panels and glass mosaic. There is a boiler house in the basement.

A north annexe is also being built on the site to house factory administration offices, a laboratory, employees' service launderette, warehouse offices, plant maintenance area, doctor's surgery, waiting room, display and demonstration unit, strongroom and cloakrooms, etc.

## LOCAL AUTHORITIES TOLD TO CUT EXPENDITURE

### Postponement of Amenity Schemes

**M**R. HENRY BROOKE, Minister of Housing and Local Government, has told local authorities that Government Departments were putting into operation the restrictions on future expenditure announced by the Chancellor and would be scrutinising very closely all expenditure proposals, including those for new capital works, coming to them from local authorities.

But success depended on local authorities' own efforts to secure every practical economy in existing expenditures, and current and capital, and their determination to allow increases in expenditures and new projects only to the extent that they were really needed. Each local authority knew best where relief in its own expenditure could be secured without damage to the essential fabric; and Ministers hoped that the necessary restraint in expenditure by local authorities could be achieved as much by a voluntary action by authorities to slow down the rate of growth of their expenditure as by any restrictions imposed by the Government.

#### Reject High Tenders

One point made by the Minister is that where tender prices seem to them too high, local authorities should, in their own as well as in the national interest, decline acceptance of such tenders and defer the project until lower quotations can be got.

#### Capital Expenditure

Dealing with long-term and short-term objectives the circular makes these points:

It is already clear that the contemplated expansion in public services for the next five years would out-strip the likely rate of growth of national resources to an extent which cannot be allowed. The long-term objective is to keep the rate of growth of total public expenditure of all kinds in proper relationship with the resources likely to be available, and to settle priorities in the national interest.

The necessary alterations in forward planning will be notified to local authorities by the Departments concerned.

In the short term, the amount of capital work which is at the present time being attempted is greatly in excess of what the building and civil engineering industries can efficiently handle. The aim here must be that the total capital expenditure of local authorities in 1962-63 should not significantly exceed the level of the current year. In view of the large number of authorisations which have already been issued (and in respect of some of which contracts may have already been let) this means that the amount of other new work for which authorisations and sanctions can in the future months be issued will have to be materially reduced; and since some programmes must continue to increase, this means that others must, without delay, be abated below recent levels.

#### Housing

In the sphere of local authority house-building there have been clear indications over the past months of growing pressure on building resources. Tender prices have risen, the time taken for completions has lengthened, and the number of houses in the "pipe-line"—either under construction or in tenders approved but not started—have tended to pile up. An increasing number of authorities have found difficulty in placing contracts. This situation will worsen if authorities as a whole seek to maintain their building effort at the present rate; the only result would be that it would become still more difficult for them to carry out their programmes economically and efficiently. It is therefore in their own interests that the total number of houses to be put into contract by local authorities during 1962, over and above those already in the pipe-line, should be reduced below recent levels.

It is not envisaged that this slowing down of council house-building starts should be achieved by a flat rate reduction

of individual programmes, without regard to the size and urgency of the housing problems of different authorities. The Minister feels sure that all authorities will agree that the overall programme should be so adjusted as to involve least interference with the programmes of those authorities whose needs are greatest. He hopes moreover that all authorities whose problems cannot truly be said to be urgent will, of their own accord, keep down their housing proposals for next year, thus making a contribution to the common good and the solution of a national problem.

Local authorities are reminded that, in framing their proposals for 1962, priority should be given to building for slum clearance, for the accommodation of the elderly, and for the rehousing of families living in badly overcrowded and squalid conditions. A few authorities will also need to give priority to overspill building. When considering proposals by individual authorities, the Minister will have close regard to these priorities. He will also take account of the relative urgency of their problems, as well as of the number of houses already approved or under construction but not completed.

Each authority is asked to review its building proposals for 1962 in the light of these paragraphs, and to let the Department know as soon as possible how many houses they think it needful to put into tender in the coming year. Though some slowing down in the rate of tender approvals is unavoidable, the Minister desires that, with the co-operation of local authorities, this may be achieved without disturbing the programmes of those authorities with the most acute and pressing needs.

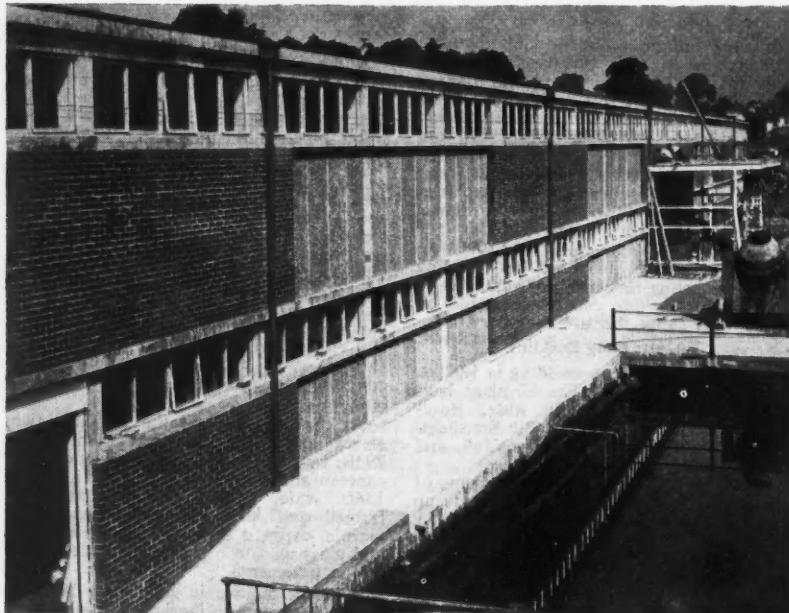
#### Water and Sewerage

The Minister hopes that the necessary curbing of the rate of growth of expenditure in this field will be achieved by the action of local authorities themselves in deferring applications for loan sanction for schemes which, in fact, are not immediately necessary. It is not his wish to interfere with normal progress on schemes which have already been sanctioned, nor to delay the start of schemes whose completion is essential in relation to other projects which are going forward. But the Minister will consider newly submitted schemes with care, and may need to discuss their timing with the promoting authority.

#### Other Services

The rise of interest rates and the broader considerations of public policy will doubtless lead to many local decisions for an indefinite postponement of projects that are not really essential. The Chancellor has indicated that the recommendations of the Wolfenden Committee on Sport and the Community must wait for some time to come. This means that the Minister must for the time being defer the issue of loan sanction for schemes for new swimming baths and projects of that kind. Schemes of this kind for which loan sanction had been promised in the current year, but for which tenders have not yet been submitted to the Department will have to be deferred, with a corresponding deferment of schemes previously contemplated for later periods.

The Government are now faced with the need to programme all capital investment up to 1965-66. For these purposes the Minister proposes to deal specifically with all projects estimated to cost more than £20,000; and in these circumstances asks local authorities to review such projects as town halls, libraries, assembly halls, community centres, markets, crematoria, cemeteries, refuse disposal and public cleansing, conveniences, and general depots, and to submit or resubmit such of their proposals as they wish to continue, indicating the year in which they wish the project to start. This will make possible the compilation of a phased programme up to 1965-66, which will still enable unexpected but immediately urgent expenditures to proceed as they arise.



A view of the new two-storey packing and despatch building which has been built at the Heathcoat textile mills, Tiverton, Devon. Designed by E. C. Quilter, A.R.I.B.A., of Production-Engineering Group, the two-storey building is 343ft. long and 43ft. wide. It has a precast concrete frame, with brick and precast concrete exposed aggregate panels of Cornish crygian green granite. The main contractors were William Cowlin and Son, Ltd., Bristol.

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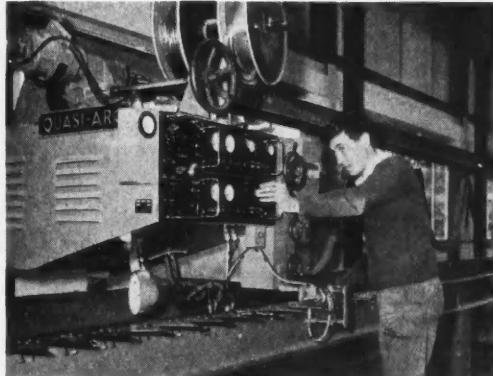
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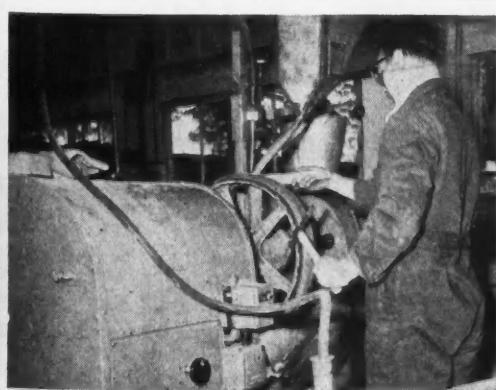
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A close up of the track link machines showing the new Quasi-Arc automatic Welding Heads and Control Panel. The adjustable templates, together with the "Magic-eye" which controls actual welding operations, can be seen attached to the machine bed.



Hydraulically actuated torque wrench in action replacing track shoe bolts on a Traxcavator track assembly. This wrench can be instantly adjusted to ensure the correct manufacturers torque settings, on the full range of Caterpillar machines.

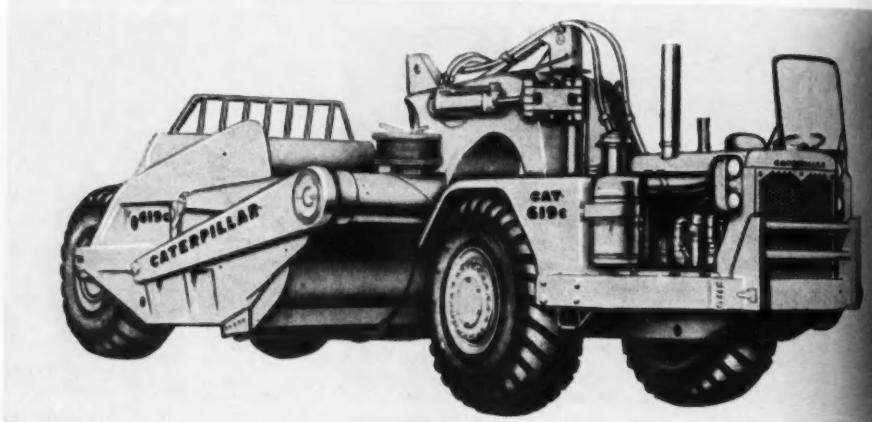


Worn front idler receiving new life by submerged Arc Welding process. The idler rotated between centres can be rebuilt to specified limits on all wearing surfaces without removal from the welding unit, thus saving time and labour and reducing machine "down-time."



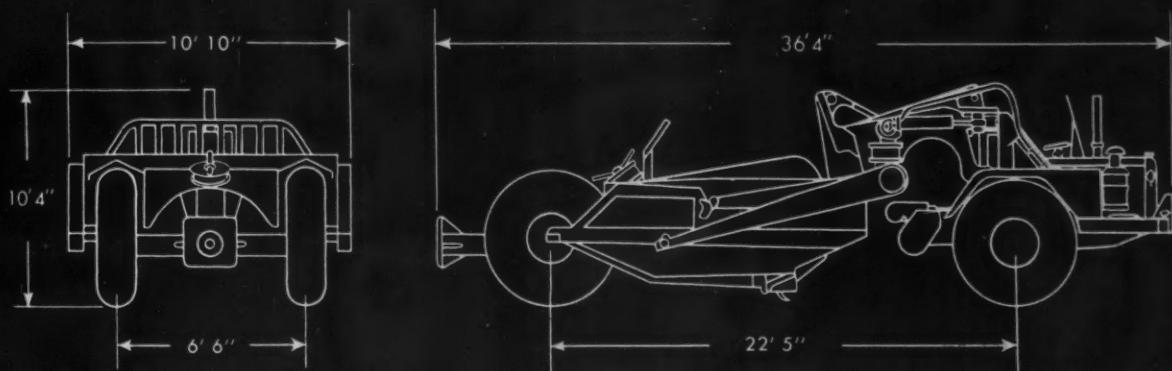
A Quasi-Arc multi-spindle twin-headed track roller rebuild machine in operation. This machine uses the fuse-melt process and produces a wear-hardening finish which does not require further machining.

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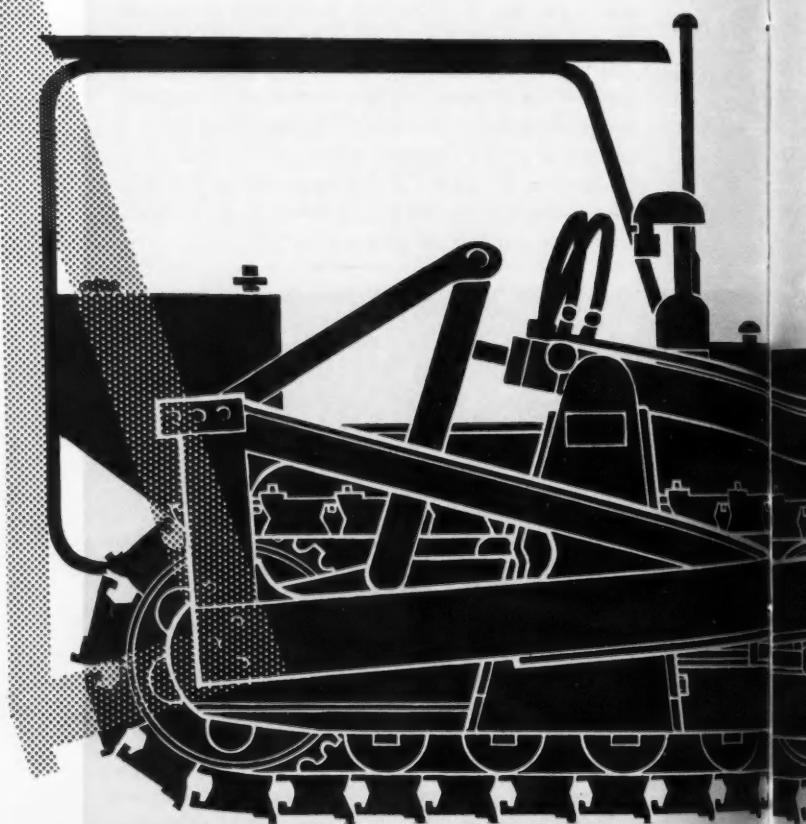
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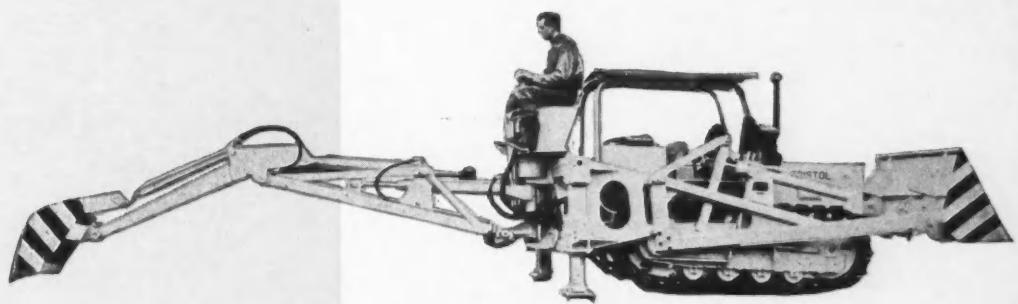


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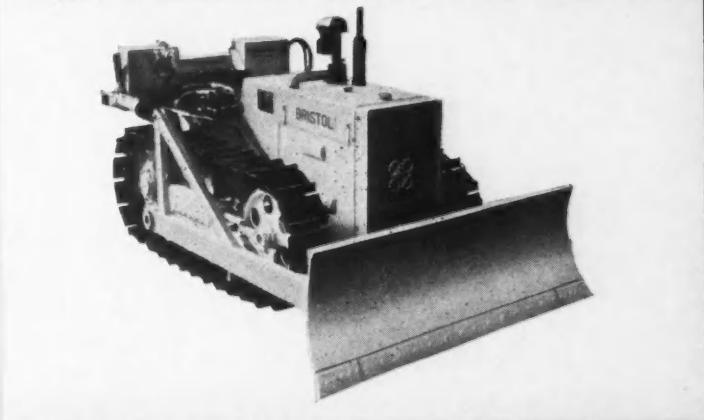


from dozer to loader

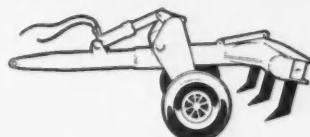
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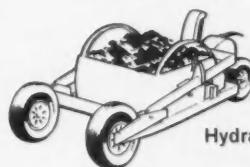


### BRISTOL PD44 Angledozer

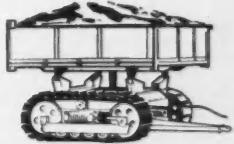


Hydraulic Drawn Ripper

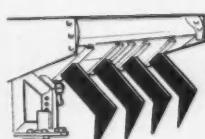
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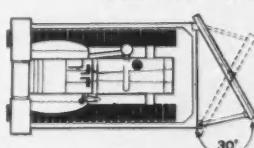
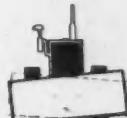


Soft Land 3-way Trailer-Dumper

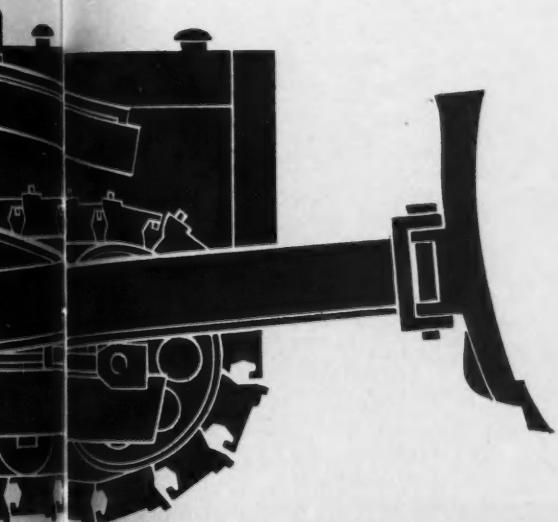


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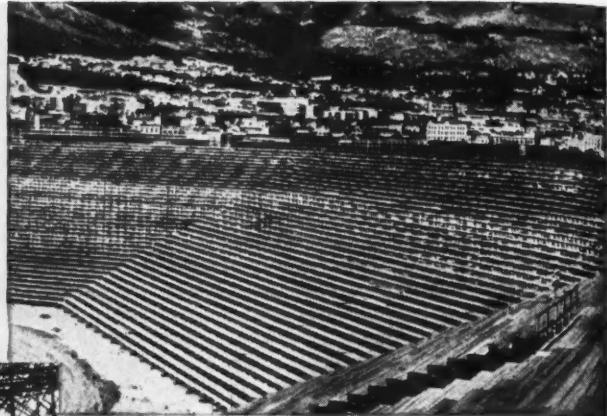
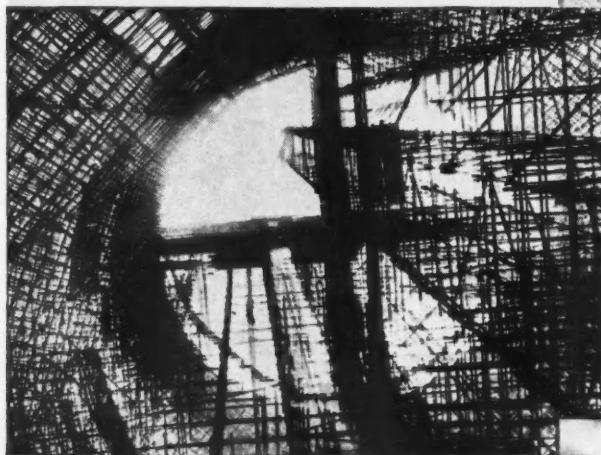
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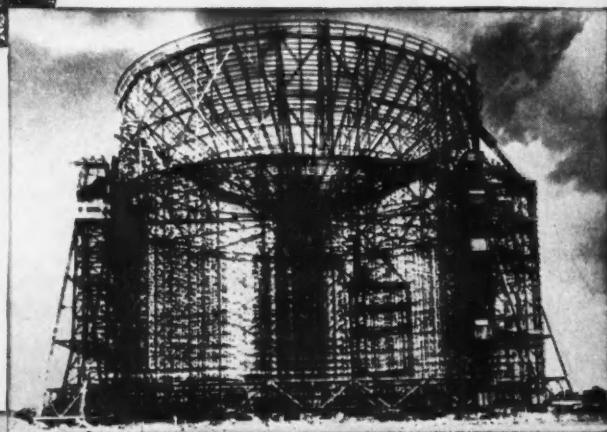
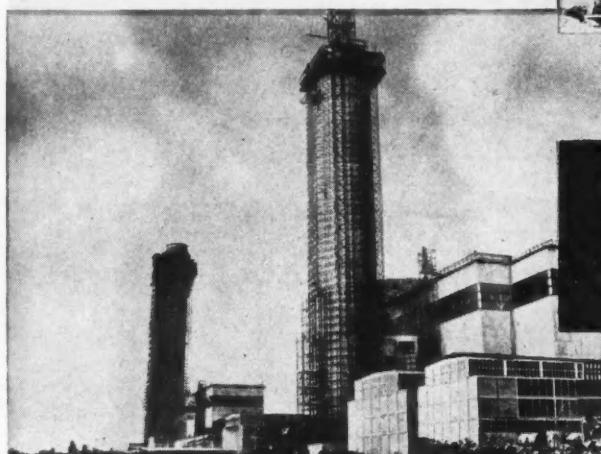
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## REDEVELOPMENT OF TOWNS CALLS FOR JOINT ENTERPRISE, SAY A.M.C. COMMITTEE

THE view that town redevelopment can only be really successful if it is a joint enterprise between public authorities and private developers is held by many local authorities, according to a report by the town planning committee of the Association of Municipal Corporations.

The AMC committee sought the observations of members following some pointed remarks contained in the sixteenth report of the Royal Fine Art Commission.

These concerned the spread of suburbs into the country, the concentration of redevelopment in the centre of cities on office and commercial buildings, the tendency to move people away from their work, the need for positive planning to reconstruct inner rings of obsolete property, and the need for comprehensive replanning of larger areas than are usually dealt with.

The AMC report says several members agree with the Commission that in the centre of towns, when extensive redevelopment takes place such redevelopment if carried out by private developers is chiefly concentrated on new offices and commercial buildings with the dominant purpose of attaining the largest amount of floor space that planning legislation will allow.

In this connection some members maintain that there is little inducement upon private developers dealing with large sites to put up anything except the simplest, cheapest and plainest buildings which will command the maximum sale price or rental.

Up to 1947 it was contemplated that derelict areas would be dealt with by local authorities under compulsory powers, but the present tendency is for private development to supply the capital to carry out redevelopment of business areas which is expected to be remunerative, leaving local authorities to provide less remunerative items, e.g., car parks, open spaces, usually at a high cost, and to deal with areas to be used for residential purposes.

### The Validity Questioned

Some authorities question the validity of the Commission's claim that the whole tendency of the present development is to move people away from it and regard this to be too sweeping and generalised.

The report continues: "Some cities are faced with problems of redeveloping inner rings of such high density property that overspill into outer districts must come. Further the concept that people must live 'near their work'—whether they like it or not—is questioned. A distance which is thought to be 'near work' in one town is quite meaningless in another. A strong claim is therefore put forward that human desires and needs and the pleasant amenities of life in a house with a garden should not always or necessarily be satisfied to the neat and logical framework of a plan prepared on paper."

The AMC committee say they have endeavoured to see if it is possible to extract from a whole mass of information and advise a few principles and basic needs which require consideration and action by the Association.

From a preliminary investigation the following points arise:

- (1) Redevelopment can only be really successful if it is a joint enterprise in which the best efforts of public authorities to provide the modern framework of high quality town services and amenities are coupled with the ability and willingness of private enterprise to provide and pay for a substantial amount of buildings and enterprises of a quality worthy of the plan.
- (2) In this joint enterprise the city or borough council has (subject to the provision of the local planning

authority in county areas) the prime function of promoting, and paying (at least initially) for the following: (a) The initial conception; (b) action to declare the area; (c) action to settle a redevelopment plan; (d) action to purchase the necessary land for, and to provide the "public amenities"; (e) action to assist private enterprises to carry out their share of the plan; (f) action to secure good architectural design for both public and private parts of the plan and (g) action to rehouse the occupants of existing accommodation. It is our belief that these tasks cannot be transferred to any distant or centralised body, and that as in certain bombed towns only the initiative, enterprise and drive of the town council can get the job done.

- (3) The Royal Fine Art Commission are right in pointing to the need to plan for redevelopment much larger areas than is now generally contemplated; in doing so they are following the lead given by many local authorities who for a long time have proceeded on these lines.
- (4) Consideration is needed to simplifying and speeding up the procedural processes of redevelopment—a factor which becomes even more important if larger areas are to be redeveloped.
- (5) New thought should be given to the whole question of compulsory purchase as a balancing factor in securing redevelopment of blighted areas. Suggestions have been submitted under which a local authority after designating a large area for development, and after a public inquiry might encourage, assist or in fact set up a "common ownership block" association (rather on the simile of a housing association), the local authority being granted compulsory powers of purchasing outstanding interests as soon as (say) two-thirds of the ownerships measured in—say—rateable value, had voluntarily joined the association. Such an idea, if developed, might act as a spur to private owners to carry out their own schemes and should reduce the demands on the local authority for finance and technical staffs, and thus enable the public sector to concentrate on the main planning and the vital public amenities.
- (6) To get this task of redevelopment forward financial assistance from the Government may be necessary.

### Land Finance Corporation

The committee comment also on proposals by the Civic Trust for the establishment by the Government of a land finance corporation.

They say one of the great needs in approaching the question of redevelopment of towns is the simplification and speeding up of procedure. The setting up of a large central body for the purchase of all land in redevelopment areas, so far from speeding up and simplifying procedures would lead to delay and complications.

The committee state: "In the consideration of this matter, it is only too easy to disregard the human factor of the people already living in the district to be redeveloped. Local authorities have already gained tremendous experience of moving families from slum clearance areas, and redevelopment areas generally, and we do not think that the Civic Trust Report, excellent and constructive as it is in many ways, takes sufficient account of this human factor.

"We simply do not believe that any large central government board will be able to act more quickly, more humanly, or with as much local knowledge and expertise in the art of balancing the various

factors in the town as the average local authority. We can see room for endless delay and protracted discussions between the local authority, the central land holding body, the planning authority, the Ministry and various private enterprises in trying to decide what happens where and who moves next. Further, is it certain that the Civic Trust proposals take sufficient account of the magnitude of the task? It is likely that the total cost of acquiring redevelopment areas over the foreseeable future may run into several hundred millions.

"Even more surprising, in this proposal there appears to be some lack of recognition of the fact that under present financial and economic conditions, the task and financial burden of building houses for a large section of the population rests squarely on the shoulders of the local housing authorities. Yet this proposal for a central land holding body is for the purpose of dealing very substantially with the worn out residential areas of towns, as apart from the urban business areas. To sum it up, as long as, as appears to us, the local authority is necessarily much the largest element both in the planning, purchasing and redevelopment of blighted areas, we can see little advantage in setting up a central body for the purpose of buying the land."

Although having made it clear that, in their view, there is no alternative to the main task of planning and land ownership unification being vested in the local authority for the town in question, the committee say they wish to be constructive; they recognise that there may be a need for some form of development of the law in relation to comprehensive action by private owners.

So far from being impressed with the idea of bulk purchasing and bulk ownership of land by a distant central body they much prefer the idea of local co-operative enterprises on the lines of housing associations.

The committee continue: "We recognise that the ultimate difficulty for any such body is the purchase at reasonable prices or at all, of the outstanding interest of those who oppose redevelopment, but we feel that only the local authority should be invested with compulsory powers. We suggest that local authorities should define comprehensive redevelopment areas and programme them, the redevelopment being carried out in some cases by private enterprise and in others by the local authority. The local authority would take compulsory purchase powers in accordance with the programme and lease or sell plots for redevelopment.

"Where redevelopment of an area was to be carried out by private enterprise the developer might be left to acquire the land, the local authority aiding the developer where necessary by obtaining compulsory powers. This is in line with the present powers of the Town and Country Planning Acts, but if these powers are defective in any way amending legislation could be sought."

### Finance

On the question of finance, the committee say this is a "most important" aspect. Quality is vital to the success of the planning and implementation of redevelopment, but the cost may be a daunting financial burden for many years. They think it should be stressed that the immense task of rebuilding the centre of blitzed cities has been substantially carried out in a determined manner by the cities and towns in question encouraged by Government grants. They doubt whether there is sufficient realisation of the serious effect of abolishing the blight grants under the L.G. Act, 1958. Help is needed over the early years of redevelopment; help is needed for open space acquisition.



View of the Limmernboden Dam in course of construction with (right) the workers' hostel on mountainside



Placing of concrete in Dam in June last. A considerable amount of unmelted snow is still to be seen

International Construction

## POWER FROM THE ALPS

### Visit to Linth-Limmern Hydro-Electric Scheme, Switzerland

By Robert W. Porter, M.B.E.\*

THE policy of making full use of Switzerland's hydro-electric resources has to-day reached the stage where less economic projects with acute constructional problems are now being carried out. In a recent official visit to Switzerland, members of the Eastern Federation of Building Trades Employers were privileged to see many aspects of the construction of the Linth-Limmern Power Plant in the mountains above Linthal in the Canton of Glarus.

This immense undertaking, whose estimated cost of £22 millions is certain to be exceeded, is being carried out by the North East Switzerland Electric Power Company (NOK) and the Canton of Glarus. The principal shareholders in NOK include the Cantons of Zurich and Aargau and Electric Companies in these areas.

There are five consortia of contractors on the site consisting of some 30 firms, the power plant and tunnels being the responsibility of Swiss firms with work on the main dam divided between Swiss and Italian companies. The preliminary work was started in 1957, the generating stations to be operating by 1964.

The central point of the project is the Limmernboden Dam close on 500ft. in height and over 1,200ft. in length. Faced with the problem of limestone rock with underground channels, extensive cement

\*Mr. Porter is Director, Eastern Federation of Building Trades Employers.

grouting took place before foundations were commenced. The dam is 80ft. wide at the base and will be 30ft. wide at the top. Since the catchment area of the valley will be inadequate, additional supplies will be collected and piped through the mountains for a distance of some 10 miles.

The magnitude of the enterprise was certainly not appreciated by our party on arriving at Tierfeld in the valley, some 2,500ft. up. There two cable-ways stretched steeply upwards for some 3,500ft. The passenger cable car accommodated our party of 30 and running parallel to it was the cable-way for materials with an 18-ton carrying capacity. During our visit 16-ton cement containers were being continuously transported, up to 800 tons being handled daily in this way.

A further surprise awaited us at the top of the cable-way—a tunnel 18ft. wide and 18ft. high had been constructed through the mountain for a distance of two miles for the transport of men and materials. The incongruity of two old Zurich trams with tracks at 6,000ft. can well be imagined. By minibus we were taken along the tunnel to emerge into the sunlight with a breathtaking view of the grim mountains, partially snow-covered, and the dam several hundred feet beneath us.

#### Concrete Placing

From our vantage point we saw concrete being placed by a 20-ton capacity crane at the rate of 3,000 cu. yd. a day. Severe climatic conditions limit concrete work on

the dam to the summer months, and while we were there 380 men were engaged on this work alone, working two shifts of 10 hours each. The dam, started in the summer of 1959, should be finished in 1962. Aggregate, obtained from excavations inside the mountain, is crushed and washed in an immense cavern some 500ft. above the top of the dam, the concrete being mixed in a large adjacent plant.

#### Unfavourable Resources

The whole project from the generating point of view is complicated by unfavourable natural resources. A small lake (the Muttsee) 8,000ft. up is also being harnessed, providing a power drop of 1,800ft. to a small generating station which will be housed in the cavern now used for aggregate washing and crushing. This will provide power for pumping which will also be necessary. The main station, together with a smaller one, will be at Tierfeld in the valley with a power drop of 3,500ft. from the central dam, down 10ft. diameter pipes. A further drop to the small Linthal station further down the valley will give an aggregate capacity of 316,000-kW.

At the lower and higher levels there was great activity, the labour force of 1,200 having a high percentage of Italians. This force is reduced to some 400 in the winter when work outside is stopped and only inside work on the tunnels, etc., is possible because of frost and snow. Over 600 workers are lodged in a hostel on a wide

(Concluded on page 808)



Hall of main generating station at Tierfeld excavated out of the mountain

**International Construction**

## APPLICATION OF OVERBURDEN DRILLING METHOD IN SWEDEN

DEVELOPED by Scandinavia's biggest contractor, AB Skanska Cementgjuteriet in co-operation with Atlas Copco and Sandvik Steel Works, the Overburden Drilling Method has been employed with success in Sweden for the past two years and new applications continue to be found.

The technique, whereby drilling is carried out through subsoil and boulders—also under water—to and through bedrock at, it is said, faster penetration rates and more economically than ever before, was first introduced on the Lindö Canal project at Norrkoping on Sweden's Baltic coast. Atlas Copco have secured the sole rights for exploiting the method outside Scandinavia.

**Drilling Method**

The Overburden Drilling Method (OD Method) requires special equipment, consisting of Atlas Copco rock drills with powerful, independent rotation, chain feeds and Sandvik Coromant special drill pipes and standard extension steels. High pressure water flushing contributes to a fast penetration rate.

All kinds of overburden are easily penetrated with this type of equipment. Boulders, hard moraine, etc., are drilled without difficulties. A typical cross-section of clay, gravel, sand, boulders, moraine and rock is shown in Fig. 1, where the drill pipe has been collared about 4in. into bedrock.

The drill pipes are joined together with external coupling sleeves. The first pipe down the hole has a detachable ring bit.

Inserted in the drill pipes are Sandvik Coromant standing 1½in. round extension steels, the leading steel having a tungsten carbide tipped cross-bit which projects 1in. beyond the ring bit and acts as a pilot (Fig. 2).

The drill pipes and the extension steels inside are drilled simultaneously through overburden including boulders.

The percussive force from the rock drill is transmitted by a special shank adapter to the extension rods and drill pipes. The powerful torque from the separate air motor for rotation is transmitted by the same shank adapter.

If drilling is to be continued after reaching bedrock both the ring bit and the cross bit are collared a few inches into the rock for secure support of the drill

pipe. The series of pipes are then disengaged from further drilling by disconnecting the top drill pipe from the shank adapter. An extra rod is added and drilling continued with the extension steels alone.

When the hole has been drilled to a predetermined depth in the bedrock the extension steels are withdrawn leaving the

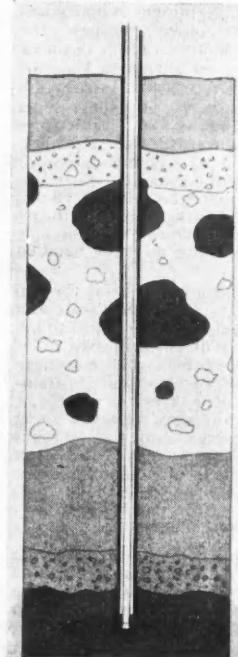


Fig. 1

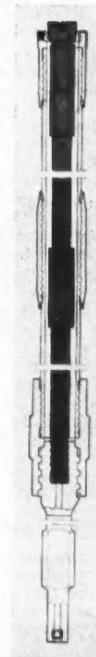


Fig. 2

drill pipe as a lining in the overburden section of the hole and thus forming an open connection between the hole in the bedrock and the surface.

During drilling through overburden, soil sampling and testing of the soil may be carried out whenever desired.

The drill pipes and the ring bit are withdrawn after the completion of such operations as the insertion of plastic tubes for charging with explosives or the entry of grouting equipment, etc.

Rock drills used for the OD Method are of two types, the Atlas Copco BBE-41, and the heavy-duty BBE-51.

**Applications**

The Overburden Drilling Method can be used for drilling and blasting of bedrock without previous overburden removal, mineral prospecting, subsoil exploration, investigations for rock location, underwater drilling, grouting, and anchoring. This method may also be used for sinking wells of reasonable depth, for groundwater investigations, measuring soil permeability and testing strata strength.

**Lindö Canal Project**

At the Lindö Canal Project surveys showed that the instability of the waterlogged clay would have made dry excavation very expensive.

After considering several alternatives it was finally decided to drill into the bedrock and blast without first removing the overburden. The soil and fragmented

rock could then be excavated together by dredging. The length of the Lindö Canal is about four miles, width 180-195ft. and depth about 33ft.

For this a total of 4,533,700 cu. yd. clay, 141,300 cu. yd. sand, 40,500 cu. yd. moraine, 226,300 cu. yd. solid rock, or a total of 4,715,000 cu. yd. of overburden and 226,300 cu. yd. of solid rock were excavated.

The rock drills were mounted on special rigs (Fig. 3) with 53ft. long chain feeds. Each drill rig was mounted directly onto a prefabricated bedplate which could be moved parallel with and sideways to the canal route by means of I-beam frames and tracks of steel sheet piling. The track system allowed the full width of the canal to be drilled progressively. Certain sections were drilled from the ice during the winter months.

No secondary blasting was necessary. During the whole excavation only a couple of boulders required raising as they were too large for the dredger buckets. Boulders larger than approximately 32in. were prevented from being carried up the full run to the dredger tower in order to avoid the risk of damage when dumping on the barges. Fragmentation was good as an average of only 10 such boulders were crane-handled for each barge filled. Each barge carried approximately 260 cu. yd.

The total saving by drilling and blasting overburden and rock simultaneously was quite considerable it is claimed. In addition the work could be carried out comparatively quickly without heavy investments in equipment and with a small labour force.

### PERU PROJECT FOR BRITISH/GERMAN GROUP

Preliminary agreement has been reached between the Peruvian Government and a British and West German consortium for work to begin on the installation of the first stage of the Mantaro River hydroelectric project.

The consortium consists of the English Electric Co., Ltd., George Wimpey and Co., Ltd., and Siemens Schuckerts of West Germany, plus private banking interests of both countries. The installed capacity of the first stage, due for completion in 1967, would be 400,000 kilowatts.

*(Concluded from page 807)*

ledge on the mountainside 6,000ft. up, at the end of the two-mile tunnel running from the cable-way. There we had an excellent lunch in the executives' canteen, although the rigours facing the construction gangs could be appreciated.

Basic pay of 6s. per hour with a production bonus and a 60-hour week with overtime, leave the workers a good surplus after paying 12s. per day for full board and lodging. The engineers generally lodge in the valley travelling up to the site daily.

**Generating Station Hall**

After lunch we returned by cable-car to the valley to inspect the site for the main generating station excavated deep in the mountain and approached by a 600ft. long tunnel. Here in a dimly lit inferno of sound we saw heavy earthmoving plant levelling the floor of this immense hall 500ft. long, 100ft. high and 100ft. wide. Blasted out of solid rock the walls and roof will later be lined with 3ft. of concrete and the generating plant installed will have a 240,000-kW capacity.

The last part of our visit was to the large reservoir which will store up to 200,000 tons of water from the main station, for the final drop of 450ft. to the smaller Linthal station.

Even in midsummer the physical conditions call for fortitude—as well as a clear head—and our admiration for this enterprise increased even more when we visualised the problems in midwinter.

The determination of the Swiss to overcome and even profit by the accident of geography is fully exemplified in this project which will make a further contribution to the country's hydro-electric resources.

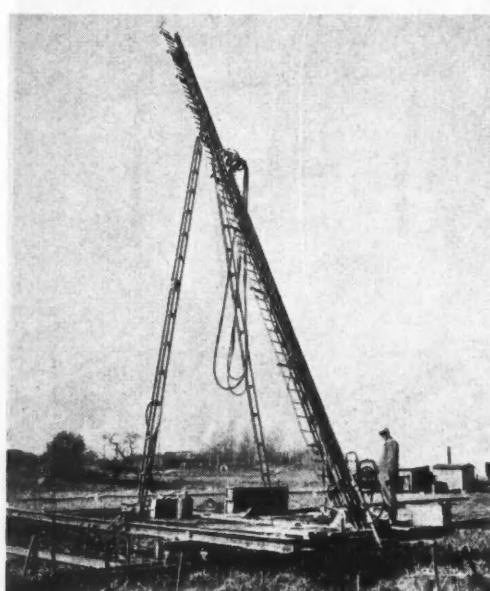


Fig. 3

## BUILDING RESEARCH STATION DIGEST NO. 13

### Concrete Mix Proportioning and Control

DIGEST 44 (first series), issued in 1952, described the elementary principles for making good concrete economically. Whilst these general principles still apply, advances in concrete technology have led to a far more critical approach to the design of concrete mixes intended for structural use, where the requisite strength and durability have to be achieved with maximum economy of materials and labour.

The cost of concrete of any given quality depends both on the materials used and on the care with which they are used. A rich mix gives high strength; but the same strength can be achieved more economically by proportioning the mix properly and seeing that it does not change throughout the job. Mix design and quality control are discussed generally in this Digest; Part II will give details of recommended procedure. Materials for concrete were described in Digest 5.

#### Specification of Concrete Mixes

The mix proportions for concrete are often specified by rule-of-thumb in "nominal" proportions such as 1 : 2 : 4 or 1 : 1½ : 3 of cement/fine aggregate/coarse aggregate, with little or no consideration for the materials and methods that will be used on the site. This kind of specification, if adopted without further safeguards, has many disadvantages. The resulting mix may not be the most suitable for the purpose; it may be harsh and difficult to compact, or contain more cement than is necessary; the quality of the concrete may not be uniform throughout and in places the strength may be well below that required.

A more realistic approach is to specify a minimum strength for the concrete and—for the given aggregate, conditions of site control, etc.—to choose the proportions of cement, fine and coarse aggregate and water accordingly. There is, in fact, a trend away from the specification of nominal mixes and towards the design and mixes on a strength basis, and this is reflected in the provisions of the B.S. Codes of Practice CP. 114 and 115, for the structural use of reinforced and of prestressed concrete, respectively; as the strength required of the concrete increases, specification tends to be in terms of strength, and even when nominal mixes are used as a basis, the actual proportions are often changed considerably after tests on preliminary mixes.

When the concrete is required to comply with CP.114 (or with certain building

regulations), a minimum crushing strength is specified for each nominal mix, as in Table 1. These strength values are based on the assumptions that a suitable water/cement ratio and an ordinary Portland cement complying with B.S.12 are used. Although the nominal mixes are specified by volume, the cement should be measured by the whole bag, or by weight. It is usual to require that, unless evidence is produced that the intended mix proportions make a satisfactory concrete, preliminary strength tests shall be made with the materials to be used on the job and the proportions shall be adjusted accordingly. Further tests ("work tests") are made on samples of the concrete while the work is in progress. It is permissible for the strength values obtained in the works tests to be somewhat lower than those in the preliminary tests.

The water/cement ratio, a most import-

this ratio to allow for different gradings and sizes of the aggregate. Clause 208 of CP.114 allows this ratio to be varied between the limits of 1 : 1½ and 1 : 3 so as to produce more workable and denser concretes with aggregates of different maximum size and different gradings; thus, a nominal 1 : 2 and 1 : 1.5 : 4.5, the actual proportions being decided from the preliminary mixes made with the materials to be used on the job.

An alternative to the use of nominal mixes is given in Clause 209 of CP.114, by which "special concrete mixes" can be designed to have any specified minimum works cube strength between 2,250lb./in.<sup>2</sup> and 6,000lb./in.<sup>2</sup> at 28 days. A minimum limit is imposed on the cement content, and for ¾in. maximum sized aggregate the mix must not be leaner than 1 : 8.

For prestressed concrete, where concretes of higher strength are required,

Table 1  
NOMINAL MIXES AND STRENGTH REQUIREMENTS  
Concrete made with Portland cement (B.S.12)  
and natural aggregates (B.S.882)

Nominal mix by volume*	Volume of dry aggregate ft <sup>3</sup> per 112 lb cement		Minimum cube crushing strength at 28 days lb/in <sup>2</sup>	
	Fine	Coarse	Preliminary test	Works test
1 : 1 : 2	1½	2½	6000	4500
1 : 1½ : 3	1½	3½	5000	3750
1 : 2 : 4	2½	5	4000	3000

\* It should be noted that a nominal 1 : 2 : 4 mix is not the same as a 1 : 6 mix by volume using an 'all-in' aggregate. Two volumes of fine aggregate when mixed with 4 volumes of coarse aggregate would in fact produce about 5 volumes of combined or 'all-in' aggregate. The use of an 'all-in' aggregate is not recommended for structural concrete.

ant factor governing concrete quality, is not specified for nominal mixes, but it is usually stated that it should be kept as low as possible provided that the mix is workable enough to obtain fully compacted concrete with the means available on the site. The water/cement ratio will be discussed further in Digest 14.

The nominal mixes, the proportions of the volume of fine aggregate to the volume of coarse aggregate are usually in the ratio of 1 : 2, but it is often preferable to vary

CP.115 "The structural use of prestressed concrete in buildings" does not permit specification in terms of nominal mixes; it requires concrete mixes to be designed solely in terms of strength, with a cement content between 500lb. and 900lb. per cu. yd.

#### Variability of Concrete on Site

Having specified the strength required and decided on suitable mix proportions for the purpose, it is still necessary to ensure that the standard of strength is maintained consistently throughout the job. Most specifications and Codes of Practice call for periodic sampling of the concrete and the making of cubes for crushing strength tests. Usually, however, this sampling is made at such infrequent intervals that the variations from mix to mix, and even from day to day, are undetected. To investigate the variations that do occur, workers from the station have visited several sites and taken samples of the concrete at frequent intervals daily over a period of two or three weeks. Cubes were made, and tested at 28 days age. The results from one site are shown in Fig. 1; the variation seen here can be regarded as typical of that occurring on many jobs. Data from this and other sites are analysed in Table 2, which shows clearly the effects of different degrees of control.

It will be seen that the strength of the concrete on a single contract can vary by as much as 4,000lb./in.<sup>2</sup>; on a site with poor control, therefore, much of the concrete produced may have a strength below the specified minimum. In the station's study, the proportion of samples falling below the specified minimum

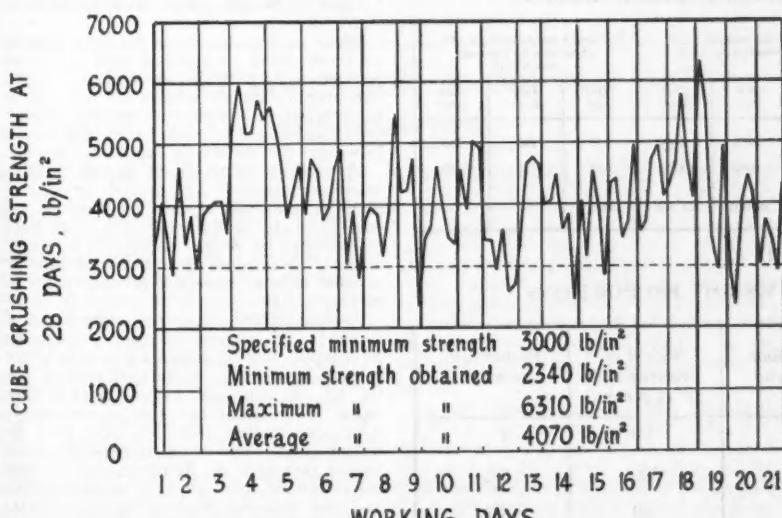


Fig. 1. Variability of concrete strength on one site

strength ranged from 0 to 49 per cent, according to the degree of control exercised.

From statistical considerations, it is to be expected that, with a sufficiently large number of tests, some proportion of the test results will fall below any specified minimum value, but it is obviously undesirable that this proportion should be too high. It is better, therefore, to decide what proportion is acceptable; a figure that is often used is 1 result in 100. Where, because of poor control, the results may vary over a wide range, the aim of not more than 1 in 100 falling below the specified minimum can only be achieved either by improving the control or by aiming at a higher "target" average for all the test results. The last column in Table 2 shows the "target" averages that would have been needed on the five sites to ensure that only 1 test result in 100 would have failed to reach the specified minimum.

Comparing two of the sites where the same minimum strength was specified, it will be noticed that on site 2, where the control was poor, the "target" average strength would have been much higher than the average actually attained in the tests, whereas for the well-controlled site 3, it would have been much less than the measured value.

The average strength of concrete can be increased, if necessary, by using either a drier mix or more cement, but both of these methods increase the cost. The alternative means of ensuring the required quality is to adopt quality control methods on the site and this is the only way to obtain the best advantage from designing mixes for a certain strength. Quality control itself costs money, but it brings with it certain advantages, including savings in cement, which will now be discussed.

The savings in cement made possible by quality control are shown by Table 3. The three levels of site control considered are typical of practice and the average strengths required have been calculated on the basis of not more than 1 result in 100 falling below the "minimum" values of 3,000, 4,000 and 5,000 lb./in.<sup>2</sup> at 28 days. At the lowest level of control it would be virtually impossible to produce concrete having a minimum strength of 4,000 or 5,000 lb./in.<sup>2</sup> at 28 days; to get these higher strengths, improved control methods are indispensable.

The last three columns of Table 3 show that the saving in cement with improved quality control depends both on the average strength of the concrete and on the level of improvement in control. Improving the site control from "fair" to "very good" saves 70 lb. of cement per cu. yd. of concrete for a 3,000 lb./in.<sup>2</sup> mix, but saves 190 lb. of cement per cu. yd. for a 5,000 lb./in.<sup>2</sup> mix. Improving the site control from "poor" to "fair" saves 400 lb. of cement per cu. yd. of 3,000 lb./in.<sup>2</sup> concrete. Thus, the initial improvement in site control, which is easiest to achieve in practice, results in the larger saving in cement; also, as the required minimum strength is increased, so good control becomes more important and also results in greater savings in cement.

It should be clearly understood that in calculating the results shown in Table 3, the same degree of workability has been assumed throughout. It is sometimes thought that, when mixes are designed and the quality is controlled, they must be mixes of low workability which are difficult to place and compact. This is not so; mixes can just as easily be designed and controlled to have a 4 in. slump as to have a 1 in. slump.

The saving of cement should not be

Table 2  
SUMMARY OF QUALITY CONTROL TESTS AT FIVE CONCRETING SITES

Site No.	Observed control of concrete on the site	Specified minimum 28-day crushing strength lb/in. <sup>2</sup>	28-day strength of cubes tested lb/in. <sup>2</sup>		Samples below specified minimum strength %	'Target' average strength* lb/in. <sup>2</sup>
			Average	Range		
1	Volume batching. Little effort to control the quality.	2500	2640	1020—4590	49	6850
2	Weigh-batching. Water content not fully controlled.	3000	4070	2340—6310	12	5700
3	Weigh-batching. Concrete pump in use which required uniform consistency for efficient working, giving good control.	2500	5120	4270—5880	None	3150
4	Weigh-batching. Very good control over water content. Control under supervision of an officer of the Station.	5000	6510	5630—7070	None	6000
5	Weigh-batching. Water content not fully controlled.	3000	4000	1990—5940	7	5250

\* The 'target' average strength is the average strength for which only 1 test result in 100 might be expected to fall below the specified minimum.

Table 3  
EFFECT OF SITE CONTROL ON CEMENT CONTENT AT DIFFERENT STRENGTHS

Degree of control on the site	Minimum strength as percentage of average strength	Average 28-day strength required for minimum strengths of:			Cement content in lb per cu. yd. of concrete for minimum strengths of:		
		3000 lb/in. <sup>2</sup>	4000 lb/in. <sup>2</sup>	5000 lb/in. <sup>2</sup>	3000 lb/in. <sup>2</sup>	4000 lb/in. <sup>2</sup>	5000 lb/in. <sup>2</sup>
Very good control, with weigh-batching and constant supervision.	75	4000	5350	6660	530	640	750
Fair control, with weigh-batching.	60	5000	6660	8350	600	750	940
Poor control, with volume batching of aggregates.	40	7500	10 000	12 500	1000	—	—

Table 4

CONVERSION—VOLUME TO WEIGHT PROPORTIONS

Material	Loose density lb/ft. <sup>3</sup>	Proportions by volume	Weight of material per ft. <sup>3</sup> of cement	Proportions by weight
Cement	90	1	90	1
Sand	100	2	200	2·2
Gravel	85	4	340	3·8

regarded as the sole advantage or even the main advantage of using quality control methods. There are other benefits which may not be immediately apparent and which are difficult to assess economically. A well designed and controlled concrete will be of uniform workability; this should result in the avoidance of porous honeycombed patches (caused by bad batching) and weak patches of laitance (due to addition of too much water). In consequence there will be no need to "make-good" or to hack out and repair such patches. A good uniform concrete, moreover, should be less permeable and more durable than one that contains weak sections, and this should make for reduced maintenance costs.

The introduction of methods of quality control on a site will increase production costs above those on a site where little control is exercised. But where weigh-batching plant is already being used, as it is by an increasing number of contractors, most of the extra costs will be those arising from the employment of a trained supervisor, and from the making and testing of additional concrete control cubes. There is no reason, however, why quality control methods should reduce the output of concrete, and on a well controlled site the production of uniform concrete should proceed more smoothly.

#### Methods of Specifying Concrete Mixes

Concrete mix proportions can be expressed in terms of volume or weight. It has already been noted that the present trend is towards specifying mixes in terms of minimum strength requirements (usually with a specified minimum cement content), rather than by nominal volume proportions. With this method, the mix proportions are determined and expressed in terms of weight. Usually, the weight ratio of cement to combined aggregate is decided upon and then the fine aggregate content is selected according to its grading and other characteristics of the aggregate. For example, a mix would be described as a 1 : 6 by weight containing 40 per cent. of sand, and the batch weights calculated from 1 : 2·4 : 3·6 proportions by weight. The water/cement ratio usually specified is that determined from the trial mix to produce a satisfactory workability and the required strength.

Where the mix is designed in terms of weight, the materials are measured by weight on site. Where mixes are specified in terms of volume, the cement should be measured by the whole bag, or by weight; the aggregates can be measured by volume, but results will be more uniform if they are measured by the equivalent weight. To obtain the weight proportions from volumetric proportions it is necessary to know the loose dry densities of the aggregates, and it is usual to take cement as weighing 90 lb./ft.<sup>3</sup>, i.e., a 1 cwt. bag contains 14 ft.<sup>3</sup>. An example of converting volume to weight proportions is given in Table 4.

Many aggregates have densities similar to those given in Table 4 and it will be noticed that, with densities of this order, the proportions by weight are not widely different from the proportions by volume; with lightweight or extra heavy aggregates, however, the difference would be greater.

A further point to be noted is that, whereas a mix of 1 : 2 : 4 by volume gives a combined volume of about 1 : 5 (see footnote to Table 1), the equivalent proportions by weight give a 1 : 6 mix by weight; this shows that a 1 : 6 mix by volume differs considerably from a 1 : 6 mix by weight.

Instead of specifying the proportions of cement and aggregates individually, an alternative way of defining a mix is by its cement content in pounds of cement per cu. yd. of concrete, as in CP.115; here again it is usual for the water/cement ratio, determined from the trial mix, to be specified. The proportions of fine and coarse aggregate are determined from consideration of their physical characteristics and the required workability of the concrete, as described in the next Digest.

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## COMMERCIAL DEVELOPMENT IN LONDON'S SHIPPING AREA

LONDON'S latest commercial development, six-storey St. Mary Axe House, close to the Baltic Exchange and Lloyd's in the heart of the City's shipping area, is to be erected by Wates, Ltd.

The development is being undertaken for Yorkwin Investments, Ltd., a member of the Chamberlain Group of Companies, and has been designed by architects, Kenneth Lindy, Joseph Hill and Partners.

The building will consist of seven floors providing a nett lettable area of about 54,800 sq. ft., and a basement car park for 22 cars approached by a ramp from Goring Street.

It will be of reinforced concrete frame construction, with hollow tile floor slabs. Above ground floor level the building is designed in the shape of a "U," to provide for the maximum amount of natural light and ventilation. Internally, to allow complete flexibility in office layout, there will be no visible beams.

Slab foundations will be used on all boundaries except that on Goring Street, where pile foundations will be necessary because of proximity to a main L.C.C. sewer.

The building will be faced with natural Portland stone, with infill panels partly of Portland stone and partly pre-cast marble slip-faced panels. The horizontal beams will be faced in a light-coloured contrasting mosaic with copings of Portland stone. The internal light well will be faced with Uxbridge flint light-coloured bricks. The facings of the ground floor exterior will be marble with mosaic panels beneath the large display windows.

### Main Entrance

The main entrance in St. Mary Axe will be recessed into the corner of the building, and fitted with armour plate glass doors. A secondary entrance and unloading area will be provided on the Goring Street frontage.

The roof will be finished with asphalt and spar chippings, and the roof structures, which house the motor rooms and tanks, faced with interlocking aluminium sheeting.

Single glazed rust-proof steel frame windows will be generally used throughout. A feature of the St. Mary Axe elevation will be a 40ft. high aluminium flag mast.

The main entrance hall will have a marble paved floor, walls lined with marble and hardwood and ceilings with a hardwood finish. One of the main features of the hall will be an open string staircase rising above a mosaic lined fish pool fed with water from a dolphin carved out of a structural column. Another feature will

be a two-storey high abstract mosaic designed by the architects. The hall will also incorporate a sunken flower bed.

The office areas will be finished with plaster and the floors covered with linoleum. The telephone and office service cables will be accommodated within special metal skirtings. The two staircases will be finished with terrazzo.

The toilet accommodation will have terrazzo tile floors and coloured tile walls.

### Services

St. Mary Axe House will be served by two Swiss Platt-Schindler lifts. The lift interiors will be finished with formica and the trim and architraves in stainless steel. A separate passenger and goods lift will serve all floors from the secondary entrance and the loading bay in Goring Street.

Full automatically ventilated toilets will be provided at each floor level. Separate toilets will be provided for the principals.

The building will be heated throughout by "warm-line" sill type convector units operating on hot water from two oil-fired boilers. Constant domestic hot water will also be provided. The boilers and the

garage ventilation plant will be located in the basement.

The fixed price contract is valued at £310,163, and is scheduled to be completed in August 1962.

### Main Sub-contractors

Main sub-contractors for the building include: Lift installation, Platt-Schindler Lifts, Ltd.; heating, hot water supply and ventilation, W. G. Cannon and Sons, Ltd.; plumbing and drainage, and electrical installation, Ford and Walton, Ltd.; Portland stone, The Bath and Portland Stone Firms, Ltd.; metal windows, W. James and Co., Ltd.; marble cladding and paving, Anselm Odling and Sons, Ltd.; terrazzo and mosaic, Malacarp Terrazzo Co., Ltd.; glazed tiles and w.c. partitions, Carter and Co., London, Ltd.; metal work, Westminster Guild, Ltd.; glazed roof lights and smoke outlets, Lenscrete, Ltd.; sprinklers and hose reels, Atlas Sprinklers Co., Ltd.; precast concrete panels, The Modular Concrete Co., Ltd.; bored piles, Simplex Concrete Piles, Ltd.; slate window sills, Bow Slate and Enamel Co., Ltd.; roller shutter, Messrs. Haskins; ironmongery, Yannidis and Co., Ltd.



Artist's impression of St. Mary Axe House

## BUILDING EDUCATION BOARD OUT OF HIBERNATION

SINCE the publication of its last report in November 1959 on "Management Studies for the Building Industry" the Board of Building Education has spent eighteen months of enforced hibernation to allow the Institute of Builders to finalise and implement its new scheme of Professional Membership Examinations.

With the Institute's new examinations being held for the first time in June, the Board has recently met to discuss a number of important developments in the field of building education and training. The Board decided that it could deal most effectively with one or two specific projects pursued energetically over a limited period, and accordingly set up two study groups whose terms of reference and composition are:

**Site Management Study Group.**—Terms of reference: (1) "To identify the functions of site management in respect of major building projects and to define the scope of the responsibilities of those engaged in site direction and control of such projects." (2) "To examine the existing patterns and adequacy of selection, education and training of such site managers." (3) "To recommend to the Board what changes, if any, should be made."

Group chairman, P. M. Shepherd, F.I.O.B.; representing—I.O.B., N.F.B.T.E. and Scottish Federation—R. O. Gerrard, Laurence J. Holloway, W. Kirby Laing, William Nicol, D. E. Woodbine Parish, and T. V. Prosser; A.P.T.I.—D. A. G. Reid; A.T.T.I.—T. E. Hall; N.F.B.T.O.—J. H. Mills; R.I.B.A.—Edward D. Mills; Com-

mittee of Vice-Chancellors—Prof. A. W. Hendry; B.R.S.—J. W. Rice; R.I.C.S.—E. N. Harris; other members—Prof. Denis Harper; ex-officio—Sir E. Graham Savage.

The following have accepted invitations to serve as co-opted members: A. G. Buck, Prof. R. C. Coates, P. H. P. Lovell, Robert Smith, and P. E. Trench.

**Graduate Entry Study Group.**—Terms of reference: (1) "To examine the report of the L.M.B.A."—A proposed Building Course for Arts Graduates." (2) "To assess the industry's needs for arts graduates and graduates in subjects other than building, and to recommend what provision should be made for their recruitment and their education and training in building."

Group chairman, Gerald A. Hill; representing I.O.B., N.F.B.T.E., and Scottish Federation—R. O. Gerrard, William Nicol, T. H. Huxley Turner, and H. Vincent; A.P.T.I.—D. A. G. Reid; Committee of Vice-Chancellors—Prof. A. W. Hendry; other members—Prof. Denis Harper; ex-officio—Sir E. Graham Savage.

### £5M. EDINBURGH STATION REDEVELOPMENT PROPOSAL

A £5m. redevelopment plan for the Waverley Station area of Edinburgh is proposed by the British Transport Commission.

Murrayfield Real Estate Co., Ltd., have been asked to prepare plans for the development of the 18-acre site, on a three-tier basis; the platforms and services will be on the lowest tier with car park, offices, shops, booking hall and rail travel amenities on the upper floors. Escalator or ramp access is proposed.

The present station was built in 1900 and occupies a central depression site in the heart of the city; the station itself is wasteful of space by present standards and could take a development of the type proposed with ease.

The scheme so far is in its early stages, but it has been given approval in principle by the Planning Committee. Elimination of the very considerable Princes Street station at the other end of Princes Street from Waverley is also proposed, and would release a further major area of ground in the centre of the city for redevelopment.

### DANISH PROFESSOR TO LECTURE IN LONDON

The Cement and Concrete Association have arranged a lecture "40 Years of the Yield-Line Theory" to be given by Professor K. W. Johansen, of the Copenhagen Technical University, in the Lecture Theatre of the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2, on Tuesday, August 22, at 6 p.m.

Professor Johansen became a professor at the Technical University of Denmark (The Royal Technical College) in Copenhagen, in 1950, and specialised in "Theory of Structures" and "Engineering Structures." He has held a number of appointments on committees and was chairman of the Danish Society for the Theory of Structures, from 1949-53 and again from 1958.

His work in originating and developing a theory on which the failure load of slabs can be predicted will be familiar to all those in touch with developments in this field, and in his lecture Professor Johansen will give an outline of the theory, a review of the developments which have been made, and discuss the implications of his theory from the designer's point of view.

Further details can be obtained from: P. Gooding, director of information, Cement and Concrete Association, 52 Grosvenor Gardens, London, S.W.1 (telephone enquiries: Mr. Mitchell, Belgravia 6661).

### TENDERS IN FOR NUCLEAR STATION

Tenders from three nuclear power groups are now being considered by the Central Electricity Generating Board for the construction of the Oldbury-on-Severn nuclear power station. This will be a 550,000-kW twin-reactor station and is likely to cost about £45m.

Construction is due to begin early in 1962 and completion is expected in 1966. It is understood that at least one tender will specify a prestressed concrete pressure vessel to contain the uranium and graphite core of the reactor instead of the usual 4in. mild steel sphere.

The three groups are: The Nuclear Power Group, the United Power Company, and the Atomic Power Group. The C.E.G.B. are to indemnify all three to the extent of £100,000 each to offset some of the cost of preparing the tender.

The final attendance figure for the first International Construction Equipment Exhibition has been announced as 32,862. Of this figure 5,728 were paid admissions.

### FIRE COSTS REMAIN AT DISTURBINGLY HIGH LEVEL

**F**IRE brigades in the United Kingdom attended about 130,300 fires in 1960—according to figures given in the 1960 report of the Joint Fire Research Organisation published recently\*. While the number of fires is not nearly so high as in 1959, when there were 240,000 (about half being of the heath or grassland variety) fire costs have hardly varied and remain at a disturbingly high level.

Since the war the Joint Fire Research Organisation has been carrying out periodic studies to see whether changing materials and methods are affecting the fire hazards of post-war dwellings.

The findings, covering the years 1947 to 1956, are that temporary post-war dwellings have a rather higher fire incidence, at 19 per 10,000 dwellings a year compared with 16 for dwellings of all types (both post-war and pre-war). On the other hand permanent non-traditional post-war dwellings have a better fire record (eight per 10,000 a year).

#### Fire Hazards of Electricity

Fires due to electricity continue to increase as the consumption of electricity rises. Studies have been made of fires due to electrical apparatus and supply installations. Forty-four per cent. of all these fires occurred in dwellings.

Sixty-five per cent. of all electrical installation fires were due to the failure of cable or flex, about three-quarters of these being due to broken insulation resulting from mechanical causes, moisture, heat, chemicals or age.

It is now becoming possible by means of small laboratory fires to predict the size of flames from full-scale fires. This will find application, for example, in predicting the effect of flames from a burning building on the intensity of heat radiation transmitted across a street, and hence on the exposure hazard to neighbouring buildings.

#### Perforated Brick Walls

Much interest has been shown in the B.R.S. perforated bricks by the building industry. A programme of fire tests undertaken jointly with the Building Research Station has now been completed. It has shown that without plaster the perforated brick satisfies model byelaw requirements for small dwellings. Where higher standards are required they can be met by an appropriate choice of plaster.

#### Audible Warning Devices

The Laboratory's investigations of the effectiveness of various audible fire warning devices has been completed. Different warning sounds were studied against a background noise of a heavy diesel lorry, and it is quite clear that audibility depends solely on loudness irrespective of the nature of the sound. Of the equipment at present available, a four-horn system is the best; a two-tone horn system comes second; and a steady note siren is a poor third. The present fire bell is even worse.

\**Fire Research, 1960.* Published for D.S.I.R. by H.M.S.O., price 5s. 6d., by post 5s. 11d. (U.S.A. 99 cents).

### £1M. KODAK DISTRIBUTION CENTRE

#### Jarvis' Tender Recommended

The tender of J. Jarvis and Sons, Ltd., 239 Vauxhall Bridge Road, London, S.W.1, has been recommended for building a distribution centre, stores and offices at Swallowdale Road, Hemel Hempstead, for Kodak, Ltd. The development is expected to cost about £1m.

Kodak's own architect, Mr. J. W. Turner, prepared the plans for the centre, with John de Bremaecker and Partners, 3 Southampton Place, London, W.C.1, acting as consulting engineers. The quantity surveyors are Gardiner and Theobald, 49 Bedford Square, London, W.C.1.

### Late Construction News

**£1.3M. SHOPPING PRECINCT.**—The first contract of a £1,300,000 scheme for a pedestrian shopping precinct in the centre of Middlesbrough has been placed with Richard Costain (Construction), Ltd. Worth £186,000, the contract provides for the excavation of the site, the sinking of 48in. diameter bored piles, construction of basement foundations and the erection of structural steelwork. This Dundas Street precinct is promoted by the Metropolitan Railways Surplus Lands Co., Ltd., and is designed by Cartwright Woollatt and Partners, Nottingham. It includes 39 shops, an underground car park and a seven-storey office block bridging the paved area.

**BIRMINGHAM DWELLINGS.**—Birmingham City Council have accepted the tender of their direct labour department, at £208,116, for the erection of 78 dwellings and 29 garages at Calthorpe Park Redevelopment Area.

**KENSINGTON HOSTEL.**—Work will begin next month on the building of a six-storey hostel for staff nurses at 1a Holland Park, Kensington, London, W.8, for King Edward's Hospital Fund for London. Patman and Fotheringham, Ltd., 15 Islington Park Street, London, N.1, have been awarded the contract which is worth £129,400. Plans are by Playne and Lacey, 19 Queen Anne's Gate, London, S.W.1. The quantity surveyors are H. Hamilton Turner and Son, 19 Queen Anne's Gate, S.W.1, and the consulting engineers are Ove Arup and Partners, 13 Fitzroy Street, London, S.W.1.

**SUPERMARKET TENDERS.**—Tenders will be invited within the next two months for the erection of a new Premier supermarket at Wimbledon, Surrey, estimated to cost about £100,000. The building has been designed by H. A. Halpern and Partners, and quantities prepared by R. J. Playle, both of 58 Cannon Street, London, E.C.4.

**TWENTY-STORY OFFICE BLOCK.**—Tersons, Ltd., are about to start work on a 20-storey office block at Westminster Bridge Road, London, S.E.1. The building will be reinforced concrete framed and will rise above a four-storey T-shaped low level block. The estimated cost is £1,250,000. The consultants for the scheme are: Devereux and Davis, architects, 3 Gower Street, London, W.C.1; H. R. Heasman and Partners, quantity surveyors, 5 Bloomsbury Square, London, W.C.1; and Clarke, Nicholls and Marcel, consulting engineers, 21 Westbourne Grove, London, W.2.

**TODDINGTON SCHOOL.**—The £140,158 tender of J. M. Hill and Sons (Amphill), Ltd., Church Street, Ampthill, has been accepted by Bedfordshire Education Committee for the erection of the Toddington Secondary School.

**THETFORD DEVELOPMENT.**—The L.C.C. are inviting tenders from selected contractors for the erection of 126 houses and other works at Thetford expanded town, Norfolk. Plans are by the L.C.C. staff and the quantity surveyors are Wakeman, Trower and Partners, 47 Bloomsbury Square, London, W.C.1.

**BRISTOL SHOWROOMS AND OFFICES.**—A lump sum contract has been negotiated with Wm. Cowlin and Son, Ltd., Stratton Street, Bristol, 2, for the erection of a large block of showrooms, offices and a warehouse at Victoria Street, Bristol, for Denton Heath Trading Co., Ltd. Foundation work will commence next month. The architects are Alec F. French and Partners, Pearl Assurance House, Queen Square, Bristol, I.

### SCOTTISH POWER STATION TO COST £60M.

The South of Scotland Electricity Board have applied to the Secretary of State for sanction to construct a £60m. coal-fired generating station on a 244-acre site immediately to the west of the East Lothian village of Cockenzie. If the application is approved the Board hope to commence work on the site early next year.

## SAFEGUARDING ELECTRICITY GRID TRANSMISSION CABLES IN SOUTH SCOTLAND

By G. S. Wilton\*

AS the demand for electricity increases rapidly so the problem of getting the energy to the load centres is becoming more and more difficult.

In Glasgow in 1930, for example, when the 132-kV. electricity grid came into operation there were no transmission underground cables. The various power stations were interconnected for mutual assistance and for maximum fuel economy by the overhead lines of the grid. The loads were supplied by radial feeders at 20-kV., 11-kV. and 6.6-kV. In the near future a 275-kV. overhead grid will surround Glasgow bringing power to supplement such of the old stations as remain operational because building the super stations required today is no longer possible inside a city. The energy from Kincardine, Hunterston, etc., will be fed right into the city through the 275-kV. transmission cables to central points where transformation down to 33-kV. will take place and it will be distributed from

The author and his engineers arranged meetings with the City Engineer's Department in an endeavour to control this situation. There it was agreed to help the City Engineer by marking the route in a special manner. The agreed marking was in the form of discs to be clamped to the lamp posts (Fig. 2). Special concrete markers were also agreed for use where the cable passed through open ground.

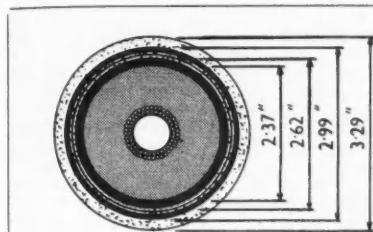
In 1958 a 132-kV. cable route from a Glasgow power station leading out through suburbs of Glasgow tripped on severe fault. The cause was found to be local water authorities' men looking for a water main by prodding the ground with steel bar; one circuit was holed and the man was prodding the second circuit when the first cable blew out. Fortunately the man was not seriously injured, but the cable damage took over a week to repair and cost £1,520.

That fault had not long been repaired when further damage nearer the grid sub-

In this case the road boundaries had been altered some time previously and the cable route had been less easy to trace. The tile covers protecting the cable had been chipped through with hand chisels and then a boring machine used to excavate the hole for the lamp standard. In boring the hole, pieces of lead, and signs of oil, were noticed, but apparently

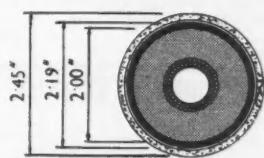


Fig. 2. Marking disc on lamp post



CABLE MANUFACTURED  
IN 1930.

Fig. 1(a)



PRESENT-DAY CABLE

Fig. 1(b)

there to further smaller sub-stations to transform down again to feed the ultimate users. This is the only way to bring the power required today into the cities where it is required.

### Development of Underground Cable

First developed by Pirelli in Italy, 132-kV. oil filled underground cable was first used in Scotland in 1930 inside Tongland Grid Sub-station. This cable is lead covered only and steel armouring is not possible for technical reasons. (See Fig. 1 (a) and (b).) Later installations of the same make were used to underground the grid lines near Renfrew and Abbotsinch airfields during the war. These installations have been remarkably trouble free, only one incident occurring when a digger lifted a cable out of the ground near Bishopston and it was seen suspended on the grab and still alive at 132-kV. Luckily despite such maltreatment the cable, of the double lead sheath type, was patched and has operated to date without further incident.

In 1953 a four-mile double circuit cable to carry grid bulk supplies into the west of Edinburgh was laid through some of the main, busy city streets. It happened soon after that a road on the route was opened to install a new gully connection under the feeders. No sooner was it laid than local contractors working for householders also made emergency openings in the road for gas and water repairs, and all back-filled without notification to us. While no actual damage resulted, obviously this was fortuitous, and further the sand bed had been disturbed and may be replaced by stones.

\*Mr. G. S. Wilton is Transmission/Distribution Engineer (O), South of Scotland Electricity Board.

station was discovered, this damage being due to work under the cables. This second cable repair was only being completed when low oil pressure was again noticed on one of the circuits and was found to be the result of the erection of a lamp standard between the two circuits (Fig. 3).

were not considered significant. This cable had operated with low oil pressure for a day or two before the trouble was noticed; as a result the oil in the upper part had polymerised into a wax. This necessitated the excavation and re-laying of 100yd. of cable, a lengthy and costly job (about £1,938).

Not surprisingly the county authorities concerned were rather aghast at the high cost of repairs. Such repeated and costly damage made us think that further measures should be taken to prevent recurrence. County officials at a subsequent meeting agreed that similar

(Concluded on page 814)



Fig. 3. Erection of lamp standard between two circuits

## £1M. MULTI-STOREY MORDEN BLOCK "TOPPED OUT"

### Four Months Ahead of Schedule

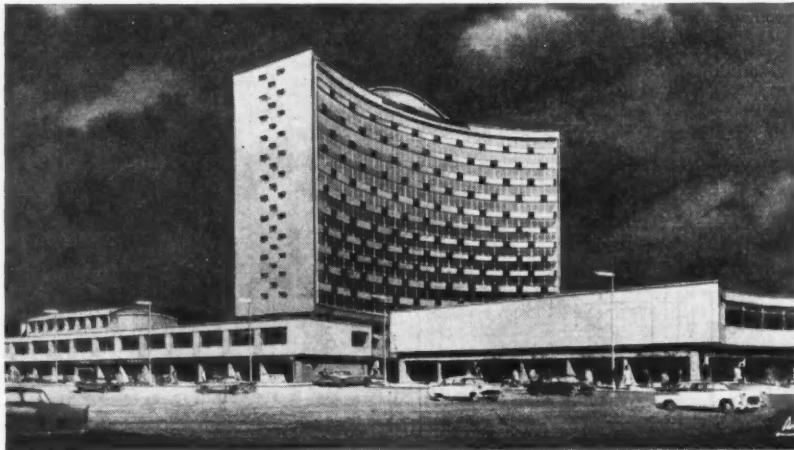
FOURTEENTH floor level has now been reached on Crown House, a 138,000 sq. ft. development at Morden, Surrey, and the traditional "topping out" ceremony was recently held on the site by the contractors, Bernard Sunley and Sons, Ltd.

This £1m. project was selected by Merton and Morden U.D.C. from 14 entries as being the most suitable for the triangular site at London Road and Crown Road. It incorporates offices, shops, a large departmental store and a new "Crown" public house. The public house

was declared open on the same day as the "topping out."

The development is being constructed for the Bernard Sunley Investment Trust and is now some four months ahead of the original schedule. During the past 11 weeks, 10 floors have been erected, each floor being of some 15,000 sq. ft.

The 14-storey block is planned on a gentle curve facing the Morden underground station. It is 200ft. long on its centre line and 50ft. deep overall, rising to a height of 170ft. It is supported on pillars leaving the ground floor free for car circulation and parking. Parking



Artist's impression of Crown House, Morden

*(Concluded from page 813)*

markers to those used in Edinburgh would be a help in controlling the openings by all parties and asked that copies of maps showing the cable route be passed to them for display in road foremen's offices, etc., and lists of the roads in which there were 132-kV. cables were also requested for use by the clerical staff dealing with road opening notifications.

Confusion outside the power supply industry between area distribution cables and transmission cables was shown up by road opening notices being sent sometimes to the distribution engineers only, was now cleared up. Further, the county authorities agreed to advise contractors liable to operate in these particular streets to contact us before doing so. Telephone numbers were supplied to them for this purpose. The number of 132 and planned 275-kV. cables in the city area of Glasgow is showing continuous increase and further consultation appeared necessary.

In December, 1960, a meeting was convened of the various local authorities in the greater Glasgow area. The meeting was as representative of all interests as possible covering the city and surrounding local authorities. Water departments, public works departments, the General Post Office, the Scottish Gas Board were represented, while on the Board's side the H.Q. transmission and distribution engineers and the engineers from Glasgow area and the Board's wayleave officers attended. The Board's engineers explained that such cables were necessary to carry the load of a large section of the City or large surrounding districts. The construction and method of laying the various types of transmission cables were explained to the meeting. The necessity for dissipating heat from the cables was shown to be the reason for laying the cable at the usual depth of 2ft. 6in. and

not deeper. The cost of repairing damage to these cables was detailed.

The local authority representatives present were in agreement that any party who opens a street and damages equipment belonging to another party is liable for the cost of such damage, but they were also surprised and worried at the high cost of repairing cable of this type. However, they were most appreciative that the Board was doing all that they possibly could to help by indicating the location of these expensive cables, by supplying

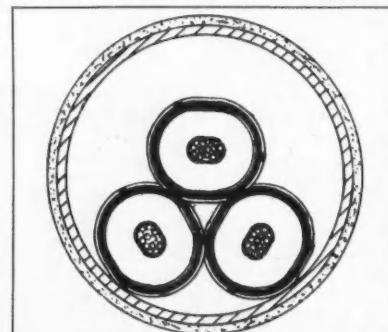


Fig. 4. 275-kV pipeline compression cable

them with lamp post markers and with 6in. to the mile cable route maps. The offer of these large scale maps was accepted by all present and lists of streets in which these cables existed were asked for.

#### Unnoticed Openings

Some local authority representatives were concerned that local contractors doing unnoticed emergency openings can now hire pneumatic road drilling equipment from plant hire firms. The possibility of damage to the Board's cables during

accommodation on the project is 140 cars.

The bulk of the block, the 3rd to 13th floors, is treated uniformly as one framed mass above a plinth of the two-storey wing blocks. Front and back elevations of the main block consist of metal windows and precast mullions and aprons. The diagonal pattern of these elevations is obtained by staggering light and dark coloured apron panels from floor to floor.

The wing blocks consist chiefly of shops with offices above. Along the London Road frontage the first floor has been reinforced to take weights of 200lb. per sq. ft., to facilitate the installation of heavy office machinery or use as a showroom. The far end of this wing is occupied by the Crown inn which has been constructed for Courage and Barclay, Ltd., and contains 20,000 sq. ft. of licensed and catering premises.

The architect for the scheme is A. Green, A.R.I.B.A. Stanley Griffiths and Partners are the quantity surveyors, and Clarke Nicholls and Marcel, the consulting engineers.

## £400,000 MOTORWAY BRIDGE CONTRACT FOR HOWARD

John Howard and Co., Ltd., have been awarded a contract to construct eight bridges and one culvert on the North Cheshire section of the Birmingham/Preston motorway.

The bridges will all carry roads over the motorway. Four of them will be constructed with spans of precast concrete beams, three of the bridges will be in in-situ prestressed concrete spans and one small bridge will be of a special type. The contract price is in the region of £400,000.

The main contractors for this section of the motorway are Tarmac Civil Engineering, Ltd. The consulting engineers are Scott, Wilson, Kirkpatrick and Partners. The employing authority is Cheshire County Council acting as agent/authority for the Ministry of Transport.

such emergency work could be quite serious. After discussion it was agreed the authorities' representatives would do all they could to acquaint contractors normally working in their districts with the existence of these transmission cables, and they would recommend them to contact us before they started opening such streets. We, on our part, promised to send an inspector immediately so that the work would not be held up. The local authorities also requested that the Board should do more in the way of publishing information in the Press concerning these cables and the methods we were agreeing to indicate their presence. Such articles would, it was hoped, be of value to all concerns who in the course of their work find it necessary on occasions to carry out excavations on highways and footpaths, e.g. local authorities, water boards, gas boards, Post Office, building contractors, plumbers, firms hiring mechanical excavating and boring equipment, etc.

Another meeting took place at the request of the Scottish Building Trades Employers Federation with representatives from the Board. Here again the Board's scheme of discs on the lamp posts and the supply of maps, one copy for each trade of the association, together with lists of streets, were gladly accepted. Cases of possible damage to distribution cable were also discussed and the Glasgow distribution system of track inspectors was explained.

Damage to pipeline types of cable, see Fig. 4, was also discussed at these two latest meetings. While the steel pipe of this cable is obviously stronger than a lead sheath it is protected by an anti-corrosion wrapping. If this is damaged corrosion may start and lead to eventual pin hole. Finding and repairing this is expensive. It is, therefore, necessary to control work in the vicinity of this cable too.

## WORK TO BEGIN SOON ON QUEEN'S HALL REDEVELOPMENT

### Scheme Comprises Four Main Elements

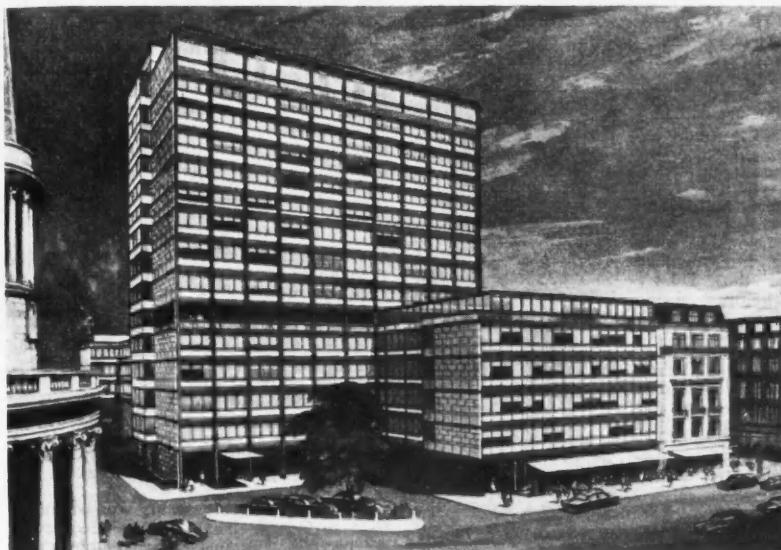
FOLLOWING the completion of negotiations with the Crown Estate Commissioners, Laing Development Co., Ltd., in association with the Pearl Assurance Co., Ltd., are to redevelop the site of the former Queen's Hall and St. George's Hall, Langham Place, London, by the erection of a building incorporating shops, showrooms, offices and a firstclass hotel.

Work on the 31,000 sq. ft. site is to commence shortly and construction, which will be carried out by John Laing Construction, Ltd., should be completed early in 1963.

The proposed building will be a rein-

storey bridge block at second-floor level, facing Riding House Street and linking the rear and tower blocks.

Part of the ground and first floors will be occupied as shops and showrooms, with an area of over 10,000 sq. ft., together with separate office entrance lobbies and hotel reception space. The remainder of the ground and first floors and the second to eighth floors will comprise about 64,000 sq. ft. of office accommodation served by four lifts. The ninth to the fourteenth floors will be occupied as a hotel which will be entirely self-contained, with its own central heating and service facilities, including express passenger and service lifts.



Artist's impression of the new building

forced concrete structure faced with Portland stone, natural stone and ceramic mosaics. It will comprise four main elements: a 155ft. high tower block of 15 storeys set back 70ft. from Langham Place; a connected six-storey block, 80ft. long, which will maintain the line of existing facades in Langham Place and Regent Street; a second six-storey block in the rear, at the junction of Riding House Street and Great Portland Street; a three-

A basement car park for 66 cars will be provided with access via double ramps off Riding House Street, together with 14 additional car spaces at ground level. Other accommodation in the basement will include a loading bay, stores and central heating plant serving the shops, showrooms and offices.

The architects for the project are Sir John Burnet, Tait, Wilson and Partners, and the quantity surveyors are Wakeman, Trower and Partners.

### INCREASE IN BRICK AND CEMENT PRODUCTION

ACCORDING to figures collected by the Ministry of Works, 666m. bricks were produced in Great Britain during June. During the first six months of this year total production of bricks has been nearly 3 per cent. higher than in the same period last year, and 115m. more bricks have been delivered, an increase of about 3 per cent. over last year.

During the five weeks commencing

May 30, 1,476,000 tons of cement was produced. Production in the first half of this year was almost 8 per cent. higher than in the same period last year and deliveries were about 11 per cent. higher. Imports have more than doubled (from 18,900 tons in 1960 to 47,000 tons in 1961), and exports have fallen by about a quarter (from 515,000 tons to 379,900 tons). Figures of weekly averages for both bricks and cement are shown below.

#### Weekly Averages

Period	(a) All Bricks		(a) Flétons		(b) Cement	
	Production (Millions)	Deliveries (Millions)	Production (Millions)	Deliveries (Millions)	Production (Thousands tons)	Home Deliveries (Thousands tons)
1960 January-June	140	141	56	56	252	235
May	145	150	57	57	275	273
June	145	147	56	56	281	266
1961 January-June	145	146	58	59	271	262
May	148	155	60	61	289	277
June	155	162	61	62	295	293

Note (a) Brick figures relate to Great Britain.

(b) Cement figures relate to the United Kingdom.

### SEVERN ABSTRACTION SCHEME WILL COST £7M.

WOLVERHAMPTON B.C. are to enter into a joint scheme with the South Staffordshire Waterworks Company for the abstraction of water from the River Severn. The scheme is estimated to cost £7,344,000 and will provide a maximum output of 45 million gallons a day.

It will comprise an abstraction and treatment works, local storage reservoir pumping equipment, an aqueduct and a terminal service reservoir which would be to the south of Wolverhampton in the Sedgley Beacon area. Of the 45 million gallons, 15 would be available for the borough council and the remainder for the water company.

The total estimated cost is made up as follows:

	£
Contribution towards regulating reservoir say ...	1,500,000
Intake works ...	81,000
Mains from intake works to storage reservoir ...	120,000
Local storage reservoir adjacent to intake (full development of site) ...	810,000
Mains from storage reservoir to treatment works ...	84,000
Treatment works and pumping station ...	1,443,000
Electrical/mechanical plant (intake, treatment works and pumping station) ...	549,000
Mains from treatment works to Sedgley Beacon ...	2,757,000
	<b>7,344,000</b>

The work of construction would be undertaken in three instalments:

	Total £
1st Instalment—15 m.g.d. ...	4,899,000
2nd Instalment—15 m.g.d. ...	1,884,000
3rd Instalment—15 m.g.d. ...	561,000
Totals—45 m.g.d. ...	<b>7,344,000</b>

It is estimated that the total expenditure would be spread over 15 to 20 years.

### WOOLWICH HIGHWAYS SECTION BONUS SCHEME

Subject to approval of financial arrangements, Woolwich B.C. have been recommended to introduce an incentive bonus scheme and works study for the highways section of the Borough Engineer's department. The proposed scheme would cover the highways and sewers construction and maintenance, refuse collection, street cleansing, and gulley cleansing sections.

The Council have also been recommended to appoint Personnel Administration, Ltd., to carry out the works study and prepare the bonus scheme, which it is estimated will take fifteen months to complete at an estimated cost of £11,400. It is estimated that the annual cost to the Council of operating the scheme would average £5,500 and that, after payment of bonus and meeting the cost of running the scheme, the net annual saving to the Council would be £45,000.

### NEW LONDON SAFETY COURSES

A new series of accident-prevention courses for the training of apprentices is being introduced by the London Building and Engineering Contractors Accident Prevention Group, in collaboration with the London Master Builders Association.

These courses will be of one day's duration and will be held at the Enfield Safety Training Centre, lecturers being drawn from all sides of the industry. The first course will be held on September 27 and the cost will be £1 1s.

Applications for this and subsequent courses should be made to J. A. Hayward, M.B.E., c/o 3B Marion Road, London, N.W.7.

## Men and Movements

**M**R. JOHN M. O'BRIEN arrived in Britain recently to assume his appointment as sales manager for Caterpillar Tractor Co., Ltd. Before joining Caterpillar in 1954, Mr. O'Brien worked in the civil engineering industry in U.S.A. and in the Dominican Republic. His practical background was further extended as a field engineer and district representative for Caterpillar in South America and Canada before his appointment last year as manager of Caterpillar's New York office. Mr. Earl W. Doubet, Mr. O'Brien's predecessor with British Caterpillar, has already left Britain to take up his new position as European division sales manager for Caterpillar Overseas S.A., Geneva.

The new chairman of the U.K. Timber Trade Federation from November 1 will be Sir John R. Simpson, who is retiring as controller of the Stationery Office.

J. Starkie Gardner, Ltd., have announced the appointment of Mr. W. P. Burley, as their technical sales representative. Mr. Burley was previously with Culford Art Metal Co., Ltd., as sales representative, and has been concerned with the architectural metal industry for over 30 years.

Recently spending a week in this country was Mr. Johannes Paul, of Ford-werke, of Cologne, distributors of Shawnee Poole equipment in Western Germany. Mr. Paul's visit was part of a prize contributed by the two firms in connection with a German sales competition.

**M**r. R. L. Roberts, for many years representative for the north for C. H. Johnson (Machinery), Ltd., has now been appointed to the spares and service division based at Adswood Road, Stockport. He will be responsible for outside service facilities and supply of conveyor spares orders. The company have also appointed Mr. Ronald R. Claxton as north western area manager, contractors' plant division.



J. M. O'BRIEN

**M**r. E. V. Small, who joined the board of Boving and Co., Ltd., last May, has been elected chairman of the company. Mr. Small was joint managing director of A.E.I. Export, Ltd., from 1959 until 1960, when he retired from executive work and was appointed consultant to the company. Mr. Small, who was managing director of A.E.I. (India) from 1935 to 1947, subsequently took charge of the B.T.H. Export Co., and became a director of B.T.H. Co., Ltd., in 1955, while at the same time remaining managing director of B.T.H. Export. In 1959 he was elected chairman of the B.E.A.M.A. Export Panel, and in December, 1960, joined the board of Blaw Knox, Ltd.

**M**r. E. A. Rhodes has resigned his directorships with Victory Real Estate Co., Ltd., and National Model Swellings Co., Ltd.

The George Cohen 600 Group, Ltd., have announced that they have appointed Mr. Peter Bonner, B.Sc., A.M.I.Mech.E., A.M.I.Prod.E., to the board of their associate company, T. C. Jones and Co., Ltd. Immediately prior to joining T. C. Jones, Mr. Bonner was with Ashmore, Benson, Pease and Co., Ltd., members of the Davy-Ashmore group, where he held technical sales, production engineering and managerial positions. He served his engineering apprenticeship with Dorman Long and Co., Ltd., later reading Engineering at Durham University.

**M**r. E. J. Aaronson, F.C.A., has been appointed general manager, overseas operations, of The General Electric Co., Ltd. He was previously economic and financial adviser (export).

The Astley Industrial Trust, Ltd., have announced the appointment of Mr. Alan Hooton as secretary of their subsidiary, General Commercial Finance Co., Ltd., of Bournemouth.



P. BONNER

**M**r. A. R. Neelands has resigned as a director of Cementation Co., Ltd. He will continue to be president of the company, and remains senior consultant.

**M**r. Brian Clarkson has joined Greenham Tool Co., Ltd., as senior technical representative for the Star Selfdrill Shield division. He will be based at head office at Isleworth and will be responsible for promoting the sale of the product in the United Kingdom.



B. CLARKSON

A new technical representative with E. J. Cook and Co. (Engineers), Ltd., is Mr. John W. Orr, previously with the Spencer group of companies.

### MUNICIPAL

The engineer and manager of the newly formed Wakefield and District Water Board is Mr. T. E. S. White, at present waterworks engineer to Wakefield B.C. He will take up his new post in October. His present deputy at Wakefield, Mr. P. G. M. Collins, will become deputy engineer and manager to the Board.

(Concluded from page 801)  
devices are designed to prevent leakage through the construction joints.

In the unlikely event of there being a leakage between adjacent buttresses, provision has been made for it to be collected in a 3in. diameter drain hole running the full height of the joint, set back 12in. from the downstream face. In addition a strip of 9in. wide extruded rubber waterstop is fitted across the joints, about 6in. from the downstream face. By these means it is anticipated that no unsightly leakage marks will appear on the downstream face of the dam.

The 3in. diameter drains will be joined to a surface drainage system downstream of the dam, and inspection chambers will be arranged so that any leakage flows can be measured.

Flood waters will pass over a semi-circular bellmouth spillway, constructed against the south end of the dam. They will then be led via an 8ft. square reinforced concrete box culvert built in the hillside, into a stilling basin and tailbay in the valley bottom, some 350ft. downstream of the dam.

Hydraulic studies of the overflow structures with flows up to an equivalent of 2,000 cusecs were carried out by The British Hydromechanics Research Association at Harlow. Only minor alterations to the original design were needed to make the stilling basin and tailbay operate to the best advantage.

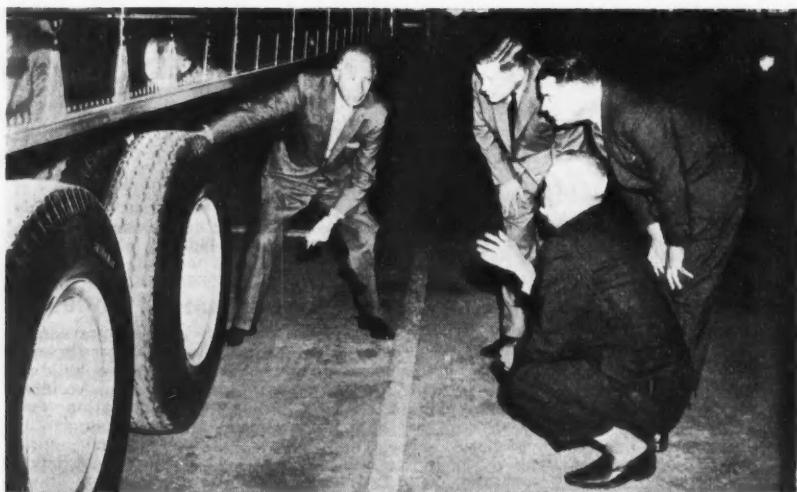
Two 15in. diameter draw-off pipes will be provided; one at level 933.5 O.D., and the other at 975.5 O.D. on the right bank of the valley. The two draw-off pipes converge into a common 18in. diameter asbestos-cement main which runs to the treatment works.

An 18in. diameter scour pipe will discharge into the tailbay through a Larner Johnson streamline valve and vortex jet disperser. A 6in. diameter by-pass to the main valve allows compensation water to flow into the tailbay.

The consulting engineers for the scheme are Herbert Lapworth Partners, London, of whom Mr. R. C. S. Walters and Mr. C. F. Lapworth, are responsible for the dam. The resident engineer is Mr. R. G. Sharp, and the architect for the scheme is Mr. John A. Strubbe, F.R.I.B.A.

The contractors for the dam are Richard Costain (Civil Engineering), Ltd., under the direction of Mr. G. S. Todd and Mr. J. W. Morrison, agent.

Mr. J. Shaw, A.M.I.C.E., is the Water Board's engineer and manager.



Mr. Guy Crane and Mr. John Crane, directors of Cranes (Dereham), Ltd., and of the newly formed Crane Fruehauf Trailers, Ltd., recently visited Detroit, U.S.A., headquarters of the Fruehauf International, Ltd. This picture shows Mr. Alexander S. Aranyos, president of Fruehauf International, Ltd., explaining the finer points of a Fruehauf van semi-trailer to the visitors. Mr. H. Reed, senior products engineer for Fruehauf Trailer Co., is in the foreground.

## SCOTTISH HYDRO BOARD PLACE LARGE GENERATING PLANT ORDERS Equipment First of its Kind in U.K.

ORDERS have been placed by the North of Scotland Hydro-Electric Board for the manufacture and installation of the large pumping and generating plant required for the Cruachan pumped storage power station of their Loch Awe Scheme. The machines will consist of four reversible pump-turbines with four 100,000 kilowatt motor-generators.

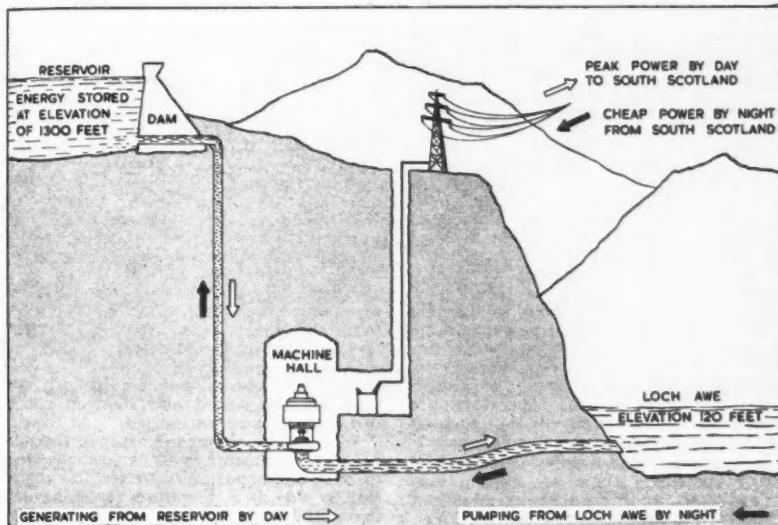
The equipment is the first of its kind to be manufactured in this country. Instead of a separate pump coupled to the same shaft as the power-producing turbine, a single stage combined pump-turbine will be used. This will rotate in one direction when producing power and in the opposite direction when pumping. Not only is the cost of the plant less but there will be

tured almost entirely on the Clyde by John Brown (Clydebank), Ltd.

The 400,000 kilowatt Cruachan pumped storage power station, which will be situated underground in the heart of Ben Cruachan, is the major station of the Board's Loch Awe Scheme which has also two conventional hydro-electric stations at Inverawe and Nant.

At night and at weekends when the demand for electricity is low, the electrical part of the machines will be used to drive the hydraulic part so that it can pump water from Loch Awe to a reservoir formed by a dam, the crest level of which will be over 1,300ft. above sea level, which will be built across a corrie on Ben Cruachan at the head of the Cruachan Burn.

During the hours when the demand for



Diagrammatic arrangement of Cruachan pumped storage power station

other savings because the plant will occupy less space.

The decision to have reversible pump-turbines represents a significant technical achievement. This is the first time that a single stage reversible pump-turbine has been used to operate under a head of water of over 1,100ft. and a number of new technical arrangements are incorporated in the design.

Two of the sets will be supplied by the English Electric Co., Ltd., and two by Associated Electrical Industries, Ltd. The English Electric equipment will be made mainly at the Scotstoun works of Harland and Wolff, Ltd. The units supplied by the Associated Electrical Industries will be manufactured at the company's Rugby and Glasgow factories and the pump-turbines, which will be sub-contracted to Bovingdon & Co., Ltd., London, will be manufac-

ture is at its peak, water from the reservoir will be fed down sloping shafts to the power station nearly 1,200ft. below and the hydraulic part of the machines will act as turbines driving the electrical part to generate electricity. The water will be conveyed to and from Loch Awe by a tunnel below the loch level.

Work is in progress on a tunnel 3,600ft. in length and 21½ ft. in width which will provide access from Loch Awe-side to the machine hall of the underground power station. This tunnel will have a 17ft. wide carriageway. A road from the Dalmally/Oban road to the Cruachan dam site is nearing completion.

The electrical and mechanical consulting engineers for the Cruachan section of the Awe scheme are Merz and McLellan. The civil engineering consultants are James Williamson and Partners.

### RESEARCH CENTRE UNDER CONSTRUCTION

A NEW research and development centre is now being constructed by the Reed Paper Group at their Aylesford (Kent) site. The first stage comprises a £500,000 laboratory providing about 50,000ft. of laboratory floor area, a pilot plant building of about 12,000 sq. ft. and office space amounting to 10,000 sq. ft.

The four-storey laboratory is generally cruciform in plan, the centre housing the entrance hall, staircase and lifts, etc., and the main laboratory services. The wings of this block will consist of laboratories specialising in particular aspects of paper technology. Administrative offices, con-

ference rooms, a technical library and an information room will be accommodated on the top floor.

A travelling crane will serve the single-storey pilot plant building, which will be concrete framed and panel-walled with steel deck roofing. The laboratory is expected to be ready for occupation in May 1962.

Architects for the centre are the Reed Paper Group, Engineering Department, and the main contractors are James Miller and Partners, Ltd. Truscon, Ltd., are responsible for the concrete frames and floors.

### Obituary

IT is with regret that *The Contract Journal* records the death of Mr. George H. Jackson, following a recent motor accident in Derbyshire. Mr. Jackson was the originator in Europe of the mobile loading shovel, and produced his first Chaseside loader as early as 1925. He was chairman of Chaseside Engineering Co., Ltd., until 1958, relinquishing his connection with that company when it amalgamated in that year with British Northrop, Ltd., Blackburn.



Born in Nottinghamshire 72 years ago, Mr. Jackson served his apprenticeship with a gas engine manufacturer and after a number of years in Canada commenced activities as a motor engineer and agent in Chaseside, Enfield, soon after World War I. It was largely as a result of having later secured a Ford Distributorship that he was able to realise the possibilities that he foresaw for the development of the mobile loading shovel by making use of the Fordson tractor as the basis of his design.

Although very much ahead of his time, his efforts to pioneer this form of mechanical handling gradually bore fruit and whilst in the decade before World War II there was no shortage of manual labour, the time and money saving advantages of the mobile shovel, particularly on the more occupationally unpleasant type of bulk handling task, became increasingly recognised.

It is also with regret that we record the death of the following:

Mr. Frank A. Mickel, director of Mactaggart and Mickel, Ltd., Glasgow and Edinburgh. He was a son of Col. Andrew Mickel, founder of the firm, and was a member of the Scottish Building Contractors' Association committee.

Mr. Arthur Collins, a senior representative of W. C. Youngman, Ltd.

### NEW AUTHORITY TO RUN AIRPORTS

The Government proposes to set up a new authority to manage Heathrow, Gatwick, Stansted and Prestwick airports and to hand over the management of seven provincial airports to local ownership. The new authority will also plan, build and manage any new airports that are required in the future.

This major change in policy is revealed in a White Paper—Civil Aerodromes and Air Navigational Services, H.M.S.O., price 9d.

(Concluded from page 802)

priorities. Housing, New Towns, school-building, health and roads are all to be cut back; although the five-year programme for new roads is to continue, as is slum clearance. The main incidence in this public sector is unlikely to be felt before 1962.

#### Vigilance Required

So there it is. A Chancellor with more than half an eye on fundamental economic problems and the future has taken widespread and potentially drastic action to restore the immediate position. As for contracting, he has not failed to follow the "tap-turning" example of his predecessors, even though the flow from the reservoir may already have slowed down. This need not prove serious in itself. A general slowing down now could solve a lot of problems now encountered in building and there will be abundant pointers to the direction things are taking. But because restraints on construction are slow to take effect, the speeding up process—if left to itself—can also be delayed unduly. This is the danger to be watched.

## Talking of Safety

by  
"DRAGEE"

WHEN the law uses the word "reasonable" it appears to have in mind the picture of a certain anonymous individual known as the Reasonable Person. He is a little bit like that other group-symbol, Mr. Average, although his qualities are more elusive and—to the layman, at least—he is often unpredictable in an impulsive kind of way. Normally R.P. likes his pipe and his half-pint of mild-and-bitter, and so far, as an ordinary citizen, he goes along quite well with Mr. Average.

There is another character, however, who appears frequently in the law-books. He is the Competent Person, and unlike R.P. he is very clever. He has to do all the difficult jobs, and if he doesn't do them properly his employer is liable to be prosecuted, and that makes him rather unpopular.

On a building job he is absolutely indispensable. For example, the law says he must inspect all scaffold materials and then he must supervise the work when the scaffolds are erected or altered. If a boatswain's chair (or similar equipment) has to be used instead of a scaffold, he will be obliged to supervise that work.

Just to make sure he is still on his toes, he is obliged to perform the periodic statutory inspection of the scaffolding and then he must enter the results in the prescribed register. Some Competent Persons consider that too much clerical work is degrading and, in any case, shows lack of confidence, and consequently the registers are neglected. This calls for a great deal of furtive activity when the Factory Inspector visits the site. In point of fact, a Person just isn't regarded as being Competent unless he can produce some documentary evidence to support his title. On certain occasions the Authorities

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

can be very mean about this kind of thing. Not only must he inspect the scaffolding, but he must also inspect lifting appliances and excavations, and here again the results have to go into the prescribed register. Where lifting appliances are concerned, the Building Regulations have a lot to say about the Competent Person.

He must supervise the erection of a crane. He must examine the appliances for the anchorage or ballasting of a crane before it is erected, and then after erection and after each removal from one part of the site to another he must carry out the prescribed test. After a particularly dirty spell of weather he must put on his gumboots and sou'wester and leave his cosy cabin to examine the anchorages and ballast. If the stability of the crane has been affected he must take steps to put it right. And you can bet your life the weather won't be half as dirty as his language when he gets back to his cabin and his cold tea.

Occasionally the foreman has a wildly original idea involving a crane, an excavator, and an elaborate system of blocks and tackle for handling an unusual load in a most improbable manner. If his enthusiasm is such that he just won't be thwarted, our friend the Competent Person is obliged by the revised Building Regulation 47 (1) to take over the control of the operation—and heaven help him if anything goes wrong.

Of course, it goes without saying that the Competent Person will be expected to operate lifting appliances—and not only that: he is the only person permitted by law to give signals. (It is just as well to make certain that the operators are competent to receive signals, but there is no mention of that in the Regulations.)

In addition to the routine inspections of lifting appliances there are certain prescribed tests and thorough examinations to be carried out by—guess whom? Yes, by the Competent Person. He must also make a point of testing and inspecting the automatic safe load indicator, and he must not forget to enter the results in the register, with all the other particulars.

There is no excuse if he finds the register getting a bit overloaded; he can always obtain a separate copy of Section B.

By the time the over-zealous foreman has reluctantly abandoned his first crazy idea and decided instead to use two cranes in combination, the Competent Person will again be called into service, a trifle weary, but still willing. Regulation 56 (2), as he well knows, will be invoked and he will be "specially appointed to supervise the operation." When the tea-whistle blows unexpectedly and the gang hurriedly departs he will be the person left in charge of the load left suspended from a lifting appliance.

He is equally at home with the small stuff. It will be his duty to test and examine chains, ropes and lifting gear, and to supervise the prescribed heat treatment, where applicable.

When it comes to taking charge of the demolition of buildings he really comes into his own, for a notice, bearing his name, must be "posted up in a prominent position on the site of the operations."

Explosives? Yes, explosives may only be handled or used by a Competent Person. And if something goes wrong there, well, he will only have himself to blame.

### SUB-CONTRACT FORMS

#### Advice to Contractors

The National Federation of Building Trades Employers and the Federation of Associations of Specialists and Sub-Contractors have called the attention of their members to the desirability of each party to any sub-contract agreement having a complete copy signed by the other party.

In the opinion of the two Federations, the best practice where there are no amendments to the Form of Sub-Contract is for the contractor to prepare two copies of the Form of Sub-Contract, to sign and stamp one himself and to send the other to the sub-contractor for signing and stamping the signed and stamped copies can thereafter be exchanged.

Where there are amendments to the sub-contract documents, both parties may wish to have the opportunity to see the copies side by side. It is, therefore, recommended that the contractor should prepare two copies, initial all amendments, and send both copies to the sub-contractor. The sub-contractor will initial the amendments on both copies. He will stamp and sign one and return both to the contractor. The contractor should then stamp and sign the other and return it to the sub-contractor.

### NEW COUNTIES PROPOSED FOR EAST MIDLANDS

Proposals for the creation of two new administrative counties, by combining Cambridgeshire with the Isle of Ely and Huntingdonshire with the Soke of Peterborough, have been submitted to the Minister of Housing and Local Government.

The proposals are contained in the final report of the Local Government Commission for England on the East Midlands General Review Area which also includes proposals for the amalgamation of Leicestershire and Rutland and the promotion to county borough status of Luton.

The Minister (Mr. Henry Brooke) will now invite comments on the report and, if there are objections, public local inquiries will follow. At this stage Mr. Brooke has formed no view on what changes, if any, he will ultimately propose to Parliament.

### HOUSING PROGRESS

The number of permanent houses completed in Great Britain during June was 27,194, compared with 27,348 in June, 1960.

In the first six months of 1961, 144,522 permanent houses were completed, compared with 143,934 in the same period of 1960.



"Better go and wake him, before he gets buried—he's supposed to be a 'banksman,' but I reckon he's the biggest 'dozer' we've got on the job!"

## IMPROVING GREAT NORTH ROAD

### Biggleswade By-pass Opening

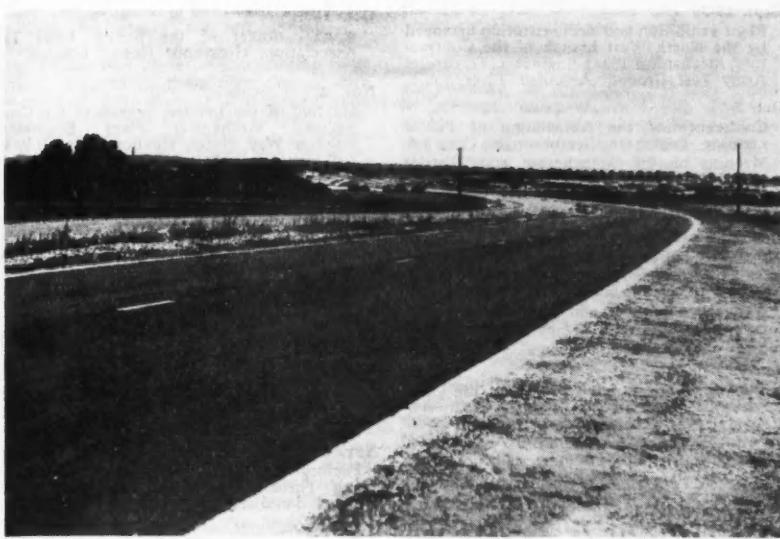
THE Biggleswade By-pass, a further instalment of the comprehensive improvement of the Great North Road (A.1), is now open to traffic.

The By-pass is more than two-and-a-half miles long. It leaves the A.1 half-a-mile south of Dunton Turn junction and, running to the south and west of Biggleswade, rejoins the trunk road a quarter-mile north of the Old Warden junction. In addition, from this point northwards for more than two miles, the existing road has been improved to the same standard

as the By-pass—dual 24ft. carriageways, 10ft. wide central reservation and hard shoulders.

Bridges carry the By-pass over the main King's Cross railway line, Langford Road (A.6001) and the River Ivel.

The whole scheme, totalling five miles in length and costing about £1m. was prepared for the Ministry of Transport by Bedfordshire County Council (County Surveyor, Mr. S. W. Lynn, A.M.I.C.E., A.M.I.Struct.E.). The contractors were Sydney Green and Sons, of Henley-on-Thames.



A section of Biggleswade By-pass

### PROPOSED VILLAGE DEVELOPMENT

Arrangements have been made for a public enquiry to be held into a proposal by Croudace, Ltd., to build a Trosley Woodland Village for about 2,500 people on a 155-acre site on the North Downs at Trosley Towers, near Wrotham, Kent. It will be conducted by Mr. J. G. Birkett, and will open at the County Hall, Maidstone, on November 21.

Outline planning permission for the residential development of the site was granted by Kent County Council in 1952. It was announced in May this year that because of the volume of public objection to the present proposal Mr. Henry Brooke, Minister of Housing and Local Government, had decided to hold a public enquiry, and on the evidence submitted there would decide whether the circumstances were such that he should consider exercising his powers under section 100 of the Town and Country Planning Act, 1947, to modify or revoke the relevant planning permission.

### B.o.T. "NO" TO IMPORTED BRICK MARKING

A recommendation concerning the marking of certain imported bricks and tiles has been refused by the President of the Board of Trade.

The recommendation, made by the Standing Committee (General Merchandise), set up under the Merchandise Marks Act, 1926, stated that imported goods of the following descriptions should be required to bear an indication of origin at the time of importation and sale and exposure for sale in the United Kingdom: Heat insulating bricks, blocks, tiles of infusorial earths, of diatomaceous earths, of kieselguhr, of siliceous fossil meal or of similar siliceous earth.

### EFFLUENT AND WATER TREATMENT

#### Exhibition and Convention

The second Effluent and Water Treatment Exhibition and Convention at the Seymour Hall, London, from October 31 until November 3 will be nearly twice the size of the one held in 1960, state the organisers. There will be a number of developments and innovations on show at the Exhibition and at the Convention Papers will be presented covering internationally the subjects of effluent and water treatment by well-known authors.

Increasingly severe restrictions are being imposed by river authorities on the type of effluent discharged. The growing volume of water required for industry cannot always be provided economically from available sources and recovery of used water is of prime importance. Both the subjects are well represented at the Exhibition by new designs and techniques.

At the Convention there will be one Paper presented by a leading Russian water treatment scientist, Oleg Lenchevsky, who recently sought political asylum in the U.K.

Registrations for the Convention have been accepted from French, Belgian, German, American, Italian as well as British delegates. Registration is £4 per delegate and forms are obtainable from the organisers: Thunderbird Enterprises, Ltd., 140 Cromwell Road, London, S.W.7.

### CHANNEL TUNNEL

The French Cabinet has postponed a decision on including the Channel Tunnel project in the fourth French modernisation plan. Studies are to be continued with a view to reducing the costs of the scheme and experts are to be asked to draft new proposals.

### £400,000 B.E.A. CONTRACT AWARDED CUBITTS

A NEW £400,000 contract to build a stationery and printing store and new offices in only 57 weeks has been awarded to Holland & Hannen and Cubitts (Great Britain), Ltd., by British European Airways.

Situated on a corner site at Long Drive and Victoria Road, South Ruislip, Middlesex, the three storey building, with dimensions of 212ft. by 200ft., will be framed in reinforced concrete and clad in brick with precast concrete infill panels, and a flat asphalt covered concrete roof.

A basement, under part of the building, will be constructed of waterproof concrete and will contain the boiler house and telephone exchange.

A large portion of the ground floor will be used for storage of documents and publications on special racks rising through two floors and incorporating hoists and walkways. There are also smaller stores and offices on the ground floor. The first floor will house a printing unit of medium sized machines, photographic service and distribution offices.

At second floor level there will be general offices around the outside of the building with a large terrace in the middle over the first floor. This terrace has been designed as an amenity for staff and will be paved with precast concrete blocks and landscaped with flower boxes. It will also provide additional illumination to the second floor offices around it.

The main entrance will be from Long Drive and at the rear of the building will be a cantilevered loading bay for vehicles.

The new building, which will replace existing stores occupied by B.E.A. at London Airport, is near Bealine House, Ruislip, where Cubitts are nearing completion on a new extension valued at £280,000.

Architects are Murray Ward and Partners, 32 Wigmore Street, London, W.1. The consulting engineers are Scott and Wilson, Kirkpatrick and Partners, 47 Victoria Street, S.W.1, and the quantity surveyors are Northcroft, Neighbour and Nicholson, Victoria House, Southampton Row, W.C.1.

### BATTERSEA ESTATE PROGRESS

#### £359,000 Direct Labour Project

The first tenants have recently moved into the L.C.C.'s new £359,000 Falcon estate at Este Road, Battersea, near Clapham Junction station. Covering six acres, the estate (designed by the L.C.C.'s architect) will contain 130 homes when fully completed next year. All the building work is being carried out by the L.C.C.'s own direct labour organisation.

So far 22 terraced houses are completed, and later there will be 30 maisonettes in three four-storey blocks, six one-room flats specially equipped for old people, and immediately facing Este Road—three six-storey point blocks (each with a lift) containing a total of 72 flats.

#### Amenities

The estate is in an area deficient in open space, so as many open and grassed areas as possible are to be provided. Other amenities include tenants' store sheds, 12 garages and 13 parking bays, a large ball games area (sited in a corner so that the noise does not cause a nuisance) and six toddlers' play spaces (close to the point and maisonette blocks so that parents can easily keep an eye on their children). Murals will be specially designed for the ground floor entrance halls of the point blocks. Old people will have an enclosed drying area and a quiet sitting-out space.

Heated drying cabinets will be provided on each floor of the point blocks and there will be two of them in each of the maisonette blocks.

A site has been surveyed and approved at Kirkbride, Cumberland, for a missile defence alarm system.

## FOR THE DIARY

**Aug. 20**

Midland branch of the Contractors' Mechanical Plant Engineers. Treasure trail.

**Aug. 24**

Yorkshire branch of the Contractors' Mechanical Plant Engineers. Visit to John Smith's Brewery, Tadcaster.

**Aug. 29**

Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading. 7.30 p.m. "Plant Insurance," by T. Kemp.

**Sept. 5**

Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

International Packaging Exhibition, Olympia, London. Sept. 5-15.

Meeting of the London branch of the Institution of Plant Engineers, Royal Society of Arts, London. 7 p.m. "Corrosion—Prevention by Cathodic Protection" by R. A. Lowe and J. S. McLachlan of Corrosion and Welding Engineering Ltd.

**Sept. 7**

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

**Sept. 13**

Meeting of Glasgow branch of the Contractors' Mechanical Plant Engineers, More's Hotel, India Street, Glasgow. 7.30 p.m. Film show and social evening.

**Sept. 18**

International Conference on Timber Engineering at Southampton University. Sept. 18-23.

**Sept. 19**

Association of Public Health Inspectors' Annual Conference and Exhibition, Bournemouth. Sept. 19-22.

**Sept. 21**

Meeting of the Yorkshire branch of the Contractors' Mechanical Plant Engineers. Visit to Thruscross Reservoir.

**Sept. 26**

Western branch of the Contractors' Mechanical Plant Engineers. Supper dance at Ashton Court County Club.

Ninth annual residential study course of the Institution of Municipal Engineers—South-Western District, at Dillingham House, Ilminster, Somerset. Sept. 26-28.

Heating, Ventilating and Air Conditioning Exhibition, Olympia, London. Sept. 26-Oct. 6.

**Sept. 27**

Meeting of the South Wales branch of the Contractors' Mechanical Plant Engineers, Dunraven Arms Hotel, Bridgend. 7.30 p.m.

**Sept. 28**

Meeting of Sheffield branch of the Institution of Plant Engineers, Grand Hotel, Sheffield. 7.30 p.m. "Industrial Relations" by W. Carron, president, Amalgamated Engineering Union.

**Sept. 29**

Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham. 7.30 p.m. "The Planning, Application and Maintenance of Industrial Lighting" by V. Heydon, manager, Lighting Division, G.E.C.

**Sept. 29-30**

Plant exhibition and demonstration arranged by the North West branch of the Contractors' Mechanical Plant Engineers, Territorial Army Test Ground, Aigburth, Liverpool.

**Oct. 3**

Conference of the Association of Public Lighting Engineers, Scarborough. Oct. 3-6. Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

**Oct. 4**

International Design Congress to be held by the Council of Industrial Design at the Royal Society of Arts, London, Oct. 4-5.

Annual conference and exhibition of the National Society for Clean Air, Dome, Brighton. October 4-6.

**Oct. 5**

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

Convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers, London.

Meeting of the Institution of Structural Engineers, London. Presidential Address.

**Oct. 9**

Annual conference of the Institute of Quarrying, Palace Hotel, Torquay. Oct. 9-13.

Meeting of the Yorkshire branch of the Contractors' Mechanical Plant Engineers, Ladies Night.

**Oct. 10**

Annual dinner of the Contractors' Plant Association, Dorchester Hotel, London.

**Oct. 11**

Meeting of the Glasgow branch of the Contractors' Mechanical Plant Engineers, More's Hotel, Glasgow.

**Oct. 18**

Forty-sixth International Motor Exhibition, Earls Court, London. Oct. 18-28.

**Oct. 19**

Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

**Oct. 20**

Annual dinner of the Yorkshire Federation of Building Trades Employers, Queens Hotel, Leeds.

Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London. 10.30 a.m.

**Oct. 25**

Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

**Oct. 31**

Annual dinner of the British Road Tar Association, Grosvenor House, London.

**Nov. 2**

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

**Nov. 7**

Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

Institution of Civil Engineers, London. Presidential Address.

**Nov. 10**

Scottish Motor Exhibition, Kelvin Hall, Glasgow. Nov. 10-18.

Dinner dance of the Yorkshire branch of the Contractor's Mechanical Plant Engineers.

**Nov. 13**

Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London. Nov. 13-18.

Annual dinner of the Lighthouse Club, Grosvenor House, London.

**Nov. 15**

Building Exhibition, Olympia, London. Nov. 15-29.

**Nov. 21**

Annual banquet of the National Federation of Roofing Contractors, Grosvenor House, London.

**Nov. 22**

Annual general meeting of the National Federation of Roofing Contractors, London.

**Nov. 30**

Annual dinner and dance of the Institution of Water Engineers, Park Lane Hotel, London.

Annual dinner and dance of the Derbyshire branch of the Contractors' Mechanical Plant Engineers, Victoria Restaurant, Chesterfield.

**Dec. 1**

Winter general meeting of the Institution of Water Engineers, at Institution of Civil Engineers, London.

**Dec. 4**

Royal Smithfield and Agricultural Machinery Show, Earls Court, London. Dec. 4-8.

**Dec. 7**

Annual dinner and dance of the Midland branch of the Contractors' Mechanical Plant Engineers, Town Hall, Sutton Coldfield.

**Dec. 8**

Federation of Master Builders' London Region "Ladies Night," Grosvenor House, London. 6.30 p.m.

**Dec. 14**

Stag dinner of the Yorkshire branch of the Contractors' Mechanical Plant Engineers.

**Dec. 20**

The Institute of Sewage Purification—Metropolitan and Southern Branch symposium on the treatment of industrial and sewage sludges at Friends House, Euston Road, London, N.W.1.



Grosvenor House's £2½m. development plan for central Leicester (see *The Contract Journal*, July 27, 1961) is to go ahead. The plan envisages a T-shaped hotel of 11 storeys with 210 bedrooms, 10 ground floor shops, a ballroom and exhibition hall, stock and showrooms, and a coffee-house. The office block will have 80,000 sq. ft. of lettable space, while garage room will be available for 300 cars.

Trade and Company News

## RAILWAYS' PART IN CONSTRUCTION OF GRANTHAM BY-PASS

### New Railhead for Unloading Bulk Cement

THE Eastern Region of British Railways is playing a part in the construction of the six-mile-long Grantham By-pass. British Railways came into the picture when they were approached by the Cement Marketing Co., Ltd., for assistance in transporting 20,000 tons of cement—from the Rochester area in Kent—to the site. The big problem was—could a suitable railhead be found for off-loading the cement in the Grantham area? The company themselves undertook to supply bulk cement wagons of their own design with air-assisted bottom-door discharge. The choice of railhead sites was limited, however, to places where there was an appreciable drop between rail level and the road, enabling lorries to be loaded by gravity. It was finally agreed that Great Ponton—some 3½ miles south of Grantham—was the nearest station capable of providing the necessary facilities.

#### Discharge Point

By slewing one existing siding and regrading another, a discharge point was achieved with a drop of some 12ft. to the road—sufficient to give a slope of eight degrees to the air-assisted cement slide into the inlet on the top of the lorry. Next, a temporary prefabricated cover was placed over the discharge point and the lorry loading point. Loaded bulk wagons are placed on the reception siding, which had to be lifted to provide a gradient to allow them to run down to the discharge point. When empty, the wagons are handled, by pinch bar, onto a parallel siding for removal.

#### "Concertina" Joint

Since the discharge arrangements require compressed air—the Cement Marketing Co., Ltd., installed a diesel compressor on the site—it was necessary to ensure an airtight joint between the wagon bottom outlet and the flow pipe leading to the lorry loading point. This

has been achieved by an ingenious arrangement using a "concertina" joint in the top of the flow pipe, which is normally just above rail level. When a loaded wagon has been placed in position, the top face of the concertina joint is forced up into contact with the unloading door by inflating a series of large inner-tubes inside the pipe. The flow pipe and unloading door are then clamped together.

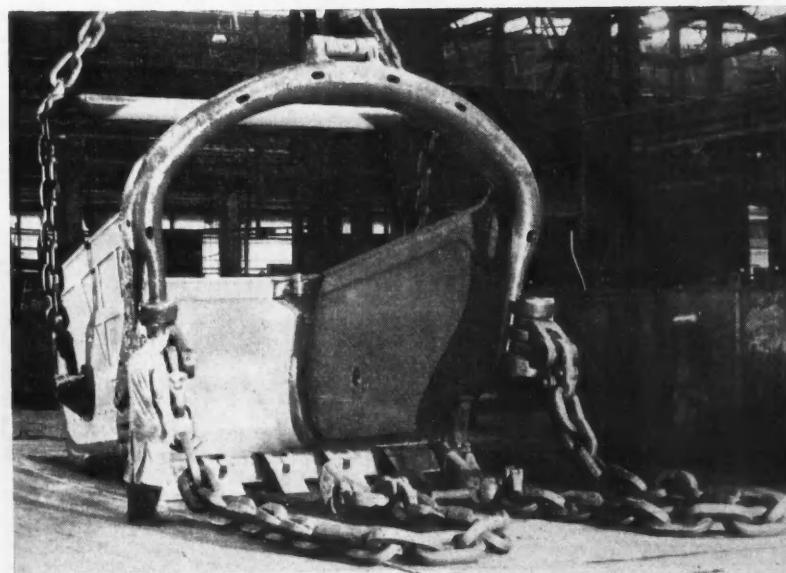
A manually operated slide valve opens the door and allows cement, assisted by air pressure, to discharge. It was found in practice, however, that this was not capable of regulating the flow exactly enough and a circular device called a Mucon valve made of fabric and using the same principle as an iris shutter has been added. This allows the operator to regulate the flow as he wishes and to shut it off instantaneously when the lorry is full. It is expected that some 600 tons of cement will be handled each week.

### ARCHED ROOF BUILDING FOR CANADA

Sanders and Forster, Ltd., of Stratford, London, state that their recently introduced novel arched roof type standard steel building has been selected to house one of Nova Scotia's latest "ten pin" bowling alleys.

The building provides clear spans from 50ft. to 210ft. and offers a choice of eaves heights ranging from 11ft. to 30ft. It has special main frame spacings to accommodate the snow loading.

Arising from their recent concentrated Canadian sales drive the export division of the company, announce that they have also received a number of Canadian orders for their "S. and F." Clear Portal Type Standard Buildings, and it is understood that these buildings will house a fish-meal factory, and another bowling alley.



The National Coal Board have taken delivery of a 40 cu. yd. Esco dragline bucket, manufactured by Hadfields, Ltd., Sheffield. Claimed to be the largest of its kind, the bucket weighs 33 tons 13cwt. fully rigged, and when loaded, approximately 90 tons. The overall dimensions are 19ft. 6in. by 13ft. 9in., and the height is 14ft. 6in. It will be operating on a Ransomes and Rapier W.1800 walking dragline.

### STA-DRI CAB FOR DROTT SKID SHOVEL

A CAB which will withstand the vibrations of crawler tractors has been produced by Sta-Dri (Cabs), Ltd., in association with Bristol Metal Components, Ltd., Whitefield Road, Bristol, 5, for fitting to the International B.6K3 Drott skid shovel.

Lift-on-and-off type doors and sliding



rear windows are provided and the cab gives full visibility. All windows are of safety glass and are set in moulded rubber.

The Drott cab retails at £70. Further crawler type cabs are to be introduced in the near future.

### M.E.X.E. TEST REPORTS

#### International, Weatherill and Chaseside

In accordance with the arrangements made by The Federation of Construction Equipment Manufacturers with the Military Engineering Experimental Establishment for the testing of construction equipment under agreed Test Codes, the following test reports are now available.

**INTERNATIONAL HARVESTER CO. OF GREAT BRITAIN, LTD.**, Harvester House, 259 City Road, London, E.C.1. Report No.: T.8 dated December, 1960. Title: International Harvester BTD.8 Crawler Tractor.

**F. E. WEATHERILL, LTD.**, Tewin Road, Welwyn Garden City, Herts. Report No.: T.9 dated December, 1960. Title: Weatherill L.64 Tractor Shovel.

**CHASESIDE ENGINEERING CO., LTD.**, Station Works, Hertford, Herts. Report No.: T.10 dated March, 1961. Title: Chaseside 1000 Tractor Shovel.

Applications for reports should be made to the manufacturers concerned.

### LOADASCREEN IS FITTED TO LORRY

A mobile Loadascreen has been specially produced for Crushed Brick and Stone Company, Liverpool, by Frederick Parker, Ltd., Leicester.

The Loadascreen, which was made in a special shortened version for fitting to an Albion lorry, will be taken from site to site, and in this instance will be used in connection with the crushing and screening of bricks removed during slum clearance.

### INDUSTRIAL TYRE RANGE

Watts Tyre and Rubber Co., Ltd., Lydney Industrial Estate, Lydney, Glos., have started production in this country of Mitco industrial tyres, which are claimed to combine the dependability of solid rubber with the resilience of pneumatic. The range of sizes will extend from 4.00-8 industrial through to 14.00-24 earthmover.

**Trade and Company News****NEW COMPANIES**

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Propile, Ltd., 12, Kingsmead Drive, Leeds, 17, civil engineering contractors. £2,000. Directors: not named. Subscribers: Archibald S. Down, "Roseworth," Crabtree Green, Collingham, near Wetherby; Mrs. Ada Eastwood, 94 Crossgates Avenue, Crossgates, Leeds.

Robert A. Jackson (Builder and Contractor), Ltd. £3,000. Director: Robert A. Jackson, "Celandine," Sycamore Road, Farnborough, Hants. Subscriber: Mrs. Joan E. Jackson, "Celandine," Sycamore Road, Farnborough, Hants.

Nearly (Ilford), Ltd., builders. £100. Directors: Michael Nearly and Mrs. Olive Nearly, 72 Aldborough Road, Ilford.

C. T. S. Concrete, Ltd., Swan Lane, Sandhurst, Camberley. £5,000. Permanent directors: Thos. F. Chessun, 48 Fontmell Park, Ashford, Middlesex; Ernest Twitchen, 1 Allen Road, Sunbury-on-Thames; Henry C. Chessun, Ernest M. Jenkins and Joseph R. Stringer.

Formwork Construction, Ltd., Clifton Villa, Park Road, Bedhampton, Hants, civil engineers. £1,500. Directors: James Hennessy and Garnett Heffernan, Clifton Villa, Park Road, Bedhampton, Hants.

R. J. Wright, Ltd., 33 Victoria Road, Leigh-on-Sea, builders. £100. Directors: Reginald I. Wright and Joan V. Wright, 33 Victoria Road, Leigh-on-Sea.

Prefabricated Structural Units, Ltd., 171 Victoria Street, S.W.1. £100. Directors: Ian R. Milne, 26 Norbiton Hall, London Road, Kingston-upon-Thames; Margaret P. Wild, 63 Oxford Avenue, S.W.20.

F. E. Walters (Lye), Ltd., 85-89 High Street, Lye, Stourbridge, builders. £100. Directors: Fredk. E. Walters and Elsie Walters, 85 High Street, Lye.

J. and W. T. Lewis (Builders), Ltd. £4,000. Directors: John D. Lewis, Ardwyn, Orchard Street, Llandovery, Carmarthen; Wm. T. Lewis, Maesdre, Cilycwm, Llandovery, Carmarthen.

J. Corrigan (Shirfield), Ltd., 233 Shirfield Road, Reading, builders. £1,000. Directors: John Corrigan and Kathleen Corrigan, 233 Shirfield Road, Reading.

Lunn, Colley and Burton, Ltd., 77 Long Causeway, Stanley, near Wakefield, Yorks, builders. £1,000. Directors: Harry Lunn, 1 Clarendon Cottage, Norbury Road, Ossett; Len Colley, 77 Long Causeway, Stanley, near Wakefield; Cyril Burton.

Cullen and Walters, Ltd., 46 Market Street, Stourbridge, builders. £100. Directors: Basil J. Cullen, 5 Romany Way, Norton Stourbridge; Frederick E. Walters, 85 High Street, Lye, Stourbridge; Mrs. Vera Cullen and Mrs. Elsie Walters.

F. W. J. Knight, Ltd., South Street, Chichester, builders. £100. Directors: Jean T. Bull, Combe Row, West Wittering; Jean M.

Carpenter, Long Acre, Long Cops Lane, Emsworth; Fdk. W. J. Knight.

F. J. Cole (Contractors), Ltd., 11 Cherrington Road, Henleaze, Bristol, 9, builders. £15,000. Directors: Francis J. Cole, 11 Cherrington Road, Henleaze, Bristol, 9; Robert V. Smith, Combe House, Backwell, Bristol.

Leonard Frankland (King's Lynn), Ltd., Preston New Road, Blackpool, builders. £50,000. Directors: Percy Hawtin, 9 Cumberland Avenue, Blackpool; Hubert E. Heritage, 23 Beauclerk Road, St. Annes on Sea.

F. Garfield and Sons (Builders), Ltd., 16 Linksview Crescent, Worcester. £10,000. Directors: Frank Garfield and Raymond J. Garfield, 16 Linksview Crescent, Worcester; John W. Collins, 8 Linksview Crescent, Worcester.

Aletrose, Ltd., builders. £100. Directors to be appointed by subscribers. Subscribers: Stanley H. Lucas and Francis A. Dean, 6 Surrey Street, W.C.2.

Wengate, Ltd., 13 Well Court, Bow Lane, E.C.4, builders. £100. Directors to be appointed by subscribers. Subscribers: L. R. Battell, 117 Hart Road, Thundersley, Essex; W. J. Wildman, 64 Woodside Avenue, N.12.

M. and M. Borne (Bristol), Ltd., 108 Hampstead Road, Bristol, 4, builders. £2,000. Directors: Maurice W. Borne, 19 Charlton Avenue, Westbury on Trym; Montague E. Borne, 108 Hampstead Road, Bristol, 4.

Bowden and Warren, Ltd., 9a Woodthorpe Road, Ashford, Middlesex, builders. £100. Directors: John L. Bowden, 73 Glenfield Road, Ashford; Robert C. D. Warren, Wynward, Green Lane, Sandhurst, Surrey; Mrs. Patricia M. Bowden and Mrs. Ruby M. Warren.

West Lancs Construction Co., Ltd., 18 Courtenay Avenue, Liverpool, 22, civil engineering contractors. £100. Directors to be appointed by subscribers. Subscribers: Wm. R. Birtwistle and Josephine Birtwistle, 18 Courtenay Avenue, Liverpool, 22.

John Rasch and Co., Ltd., builders. £100. Directors: John Rasch and Edith Rasch, 64 Warren Street, W.L.

Highway Plant Hire Co., Ltd., 146a Back Street, Ilkeston, Derbyshire. £10,000. Directors: Edward Gibbons, 19 Hardy Barn, Marlford, Henor, Derbyshire; Andrew Anderson, 60 Station Road, Langley Mill, Notts.

K. E. Parker, Ltd., The Bungalow, Great Brickhill, Bletchley, Bucks., builders. £1,000. Directors: Kenneth E. Parker and Betty E. Parker, The Bungalow, Great Brickhill, Bletchley.

J. and B. Contractors (Plant), Ltd., Pensarn, Abergele, North Wales, hirers of all kinds of industrial machinery, including road rollers, etc. £5,000. Directors: Griffith C. Jones, Roslyn, Dundonald Avenue, Abergele; David W. Jones, Bryn Aled, Brynmain Avenue, Abergele; Ronald C. Jones, Roslyn, Dundonald Avenue, Abergele, North Wales.

Davies Builders (Bristol), Ltd. £5,000. Directors: Frederick W. Clark, 40c Branksome Wood Road, Bournemouth; Cecil G. E. Wheeler, Old Pines, Martello Road, Branksome Park, Bournemouth.

Jackson and Alcock (Contractors), Ltd., Bank Street, Congleton, Ches., builders. £5,000. Permanent directors: Eric Jackson, Overdale, Brook Street, Congleton; James N. Alcock, The Haven, Holmesville Avenue, Congleton.

K. and K. Plant Hire Co., Ltd. £100. Directors: David G. King and Mrs. Cynthia A. King, 1a Devonshire Road, Gravesend.

Crader Builders, Ltd., 92 Cannon Lane, Pinner, Middx. £2,000. Directors: Derrick Murrell, Chiltern View St. Peters Way, Chorleywood, Herts.; Graham J. C. Bloxham, 10 Oakington Avenue, Little Chalfont.

Basildon Plant Hire Co., Ltd., Archers Fields, Burnt Mill Road, Basildon, Essex. £100. Directors: Albert W. A. Cartwright, 45 Long Riding, Basildon; Arthur W. Croney, 29 Hillside Road, South Benfleet.

G. and J. Allen, Ltd., 23 Hillgrove Avenue, Yeovil, builders and contractors. £2,000. Directors: Godfrey J. A. Allen, Wendover, Shepton Beauchamp, Som.; John Allen, Stoke Villa, Shepton Beauchamp; Edward A. Allen and Ernest G. Allen.

Weston Builders, Ltd., 138 West Bar, Sheffield, 3. £1,000. Directors: Stanley Weston and Robert L. Weston, Avalon, 24 Millhouses Lane, Sheffield, 11.

S. Small (Builder), Ltd., 150 Bohemia Road, St. Leonard-on-Sea. £2,000. Directors: Stanley Small and Eileen D. Small, 15 Bohemia Road, St. Leonards-on-Sea.

Fuller Bros. (Builders), Ltd., Kings Leigh, Langbury Lane, Ferring, Sussex. £1,000. Directors: Peter W. Fuller, Kings Leigh, Langbury Lane, Ferring; Eric J. Fuller, 61 Sompting Road, Worthing.

Henry Boot (Scaffolding), Ltd., Banner Cross Hall, Ecclesall Road, South, Sheffield, 11, erectors of scaffolding, etc. £100. Directors to be appointed by subscribers. Subscribers: Henry M. Boot, Bents House, Bradfield Dale, near Sheffield; S. C. Hand, Vernon House, Grindleford, Derbyshire (chartered accountant).

R. Sherwin and Son (Stoke-on-Trent), Ltd., painters, decorators, etc. £3,000. Directors: Robt. Sherwin, 130 Richmond Street, Hartshill, Stoke-on-Trent; Mrs. Florence Sherwin, 130 Richmond Street, Hartshill, Stoke-on-Trent; Peter A. Sherwin, 96 Farns Avenue, Porthill, Newcastle-under-Lyne.

H. C. Fay and Son, Ltd., 71 London Road, Widley, Portsmouth, builders. £1,000. Directors: Harold C. Fay, Mrs. A. N. Fay and Michael C. Fay, all of 71 London Road, Widley, Portsmouth.

R. Pickles and Son, Ltd., 62 Woodhouse Lane, Leeds, 2, builders. £1,000. Directors: Ronald Pickles and Mrs. E. Pickles, 69 Seaforth Road, Leeds, 9.

S. W. V. French, Ltd., Averil, Weston Grove, Ross-on-Wye, Herefs., builders. £1,000. Directors: Stanley W. V. French and Mrs. Edith E. French, Averil, Weston Grove, Ross-on-Wye.

Mercred Leasing, Ltd., 7-8 Little Turnstile, W.C.1, plant hire contractors, etc. £1,000. Directors: Alex W. Herbage, 6 Montagu Place, W.I.; Shirley F. Randall, 39 George Street, W.I.

Lock (Contractors' Equipment), Ltd., 245 Knightsbridge, S.W.7, manufacturers of and dealers in accessories for cranes, excavators, etc. £1,000. Director: Ruby F. Lock, Westleigh, Austin Avenue, Newton Porthcawl.



Shown here is one of the largest units to leave the works of Fodens, Ltd., Sandbach, Ches. Purchased by Le Materiel Electrique, Paris, it is destined for operation in Malaya on the installation of transformers and switchgear into a new power house. The tractors, model FCNHT 6/50, are powered by Cummins NH.220 diesel engines, developing 212 b.h.p. and are designed to handle the fully laden train of about 160 tons on a gradient of 1 in 7. The trailer of Cranes (Dereham), Ltd., manufacture, is designed to carry a 65-ton payload, plus 10 per cent. overload. Drivers and steersmen are co-ordinated by a Tannoy loudspeaker system

**Trade and Company News****MORE ROAD PLANT FOR ARGENTINA**

A DEAL, just concluded in London, will supply construction equipment totalling £1,435,000 for the Province of Santiago del Estero.

A series of contracts during the last few weeks have established a new market for British manufacturers in Argentina. Three of these contracts have been negotiated through Knowles and Foster, the City of London merchant bankers, and Mercator S.A. of Buenos Aires. Credit has been spread over five years. Only recently one contract to the value of £350,000 was announced for plant to be used on a road project in the Province of Neuquen.

Mr. Jorge Stern, managing director of Mercator is at present in this country negotiating further contracts on the same basis.

Shipment of a consignment from the second contract just completed with the Province of Entre Ríos covers Wakefield motor graders worth a quarter of a million pounds. More Wakefield graders are included in the current deal supplied by Construction Machinery, Ltd., with Broom and Wade compressors, Chaseside loading shovels, Curtiss Wright scrapers, and Foray drilling equipment.

**EXPORT ORDERS FOR PARKER**

A £34,000 order for a crushing, screening and stockpiling plant has been placed with Frederick Parker, Ltd., Leicester, by the Middle East Contracting Co., Ltd., who are to carry out a rebuilding and modernisation scheme for the R.A.F. at Little Aden. The plant will have three vibrating screens, one a three-deck, nine conveyors ranging from 34ft. in length to 70ft., and four crushers.

Another order, worth £17,000, has been placed with Parker by the Public Works Department, Jesselton, North Borneo. This is for a large mobile crushing plant, a 20ft. x 30ft. EL Loader, PY 15 bin, mobile No. 3 Kubit Breaker outfit, together with a No. 25 Portabin portable screening and storage unit.

**LEYLAND'S NEW AUTOMOTIVE DIESEL**

A new addition has just been made by Leyland Motors, Ltd., to its new Power-Plus range of automotive diesel engines.

It is the 0.370 unit with a bore and stroke of 4.07in. by 4.75in. (103.4 by 120.6 mm.), developing a gross h.p. of 115 b.h.p. at 2,400 r.p.m. and a net installed h.p. of 110 b.h.p. at the same speed. Maximum net torque is 272lb. ft. (37.60 kg.m.) at 1,600 r.p.m.

This new engine is the fourth in the new Leyland Power-Plus series of engines, the others being the 0.400 (125-h.p.), the 0.600 (140-h.p.), and the 0.680 (200-h.p.).

**AUSTIN-WESTERN CRANES AGENCY**

Jack Olding and Co., Ltd., Hatfield, Herts., announce that they have been appointed sole distributors for Austin-Western hydraulic cranes in Great Britain.

One of the first of these is now working at Fawley Refinery, on hire from Purchas, Ltd., to Foster Wheeler, Ltd. Among its features are: hydraulic outriggers for stability on uneven surfaces, 360-degree continuous rotation, low headroom and four-wheel steering.

**NEW LONDON PLANT OF READY MIXED CONCRETE**

Planning permission has been obtained by Ready Mixed Concrete, Ltd., for the erection of a central batching plant on a site half-a-mile north of Kings Cross Station, London. The design drawings are now being finalised and it is anticipated that the new plant will be in operation early in 1962.

**POWER-OPERATED CRADLE**

A PORTABLE power-operated cradle, developed by W. C. Youngman, Ltd., Wandsworth Road, London, S.W.8, is now being tested on a variety of jobs before being made available for sale.



Standard Youngman climber

The standard climber has a working floor area of 6 sq. ft., and can be lowered through an opening 48in. x 36in. On the construction of the new Firth of Forth road bridge, this type of climber was suspended within the main supporting towers for the engineers engaged in bolting the sections together.

Easily attachable fly decks can be fitted on either side of a single climber to accommodate two men and provide a working span of 10ft., but by joining two climbers together with a lightweight staging a working span of up to 40ft. can be provided.

**VENESTA TO PRODUCE EXPANDED PLASTICS**

A MAJOR changeover is now being effected at the Erith, Kent, factory of Venesta Plywood, Ltd., where new machinery is being installed for the large-scale production of expanded plastics.

Initially production will be concentrated on expanded polystyrene for thermal insulation. This is expected to start in January, 1962, and to build up to an output of 1,000 tons a year. The changeover operation is likely to absorb about £350,000 for machinery and working capital.

There would appear to be a wide market for expanded polystyrene in the United Kingdom. Production of this material in Germany rose from 2,500 tons in 1956 to 20,000 tons last year—an increase of 800 per cent. in five years. In the United States there was a 3,200 per cent. increase in the same period, production last year rising to 16,000 tons from 500 tons in 1956. Against these figures the 1960 U.K. total was 2,000 tons—only 10 per cent. of German production.

**SAVILLE OPEN AT SALISBURY**

Saville (Tractors), Ltd., have opened new premises at Southampton Road, Salisbury, for the sale of International Harvester farming and construction equipment. The company are the largest IH distributors in the country with headquarters at Stratford-on-Avon and premises in Belfast, Cardiff, Exeter, Salisbury and London.

**B.R. ORDER £1M. ROAD FLEET**

A £500,000 contract for 862 semi-trailers and over 300 tractors with automatic coupling gear has just been placed with Scammell Lorries, Ltd., of Watford, by British Railways.

The tractors are three-wheeled Scammell Scarab mechanical horses similar to the 7,000 which have previously been purchased by British Railways. The new order includes 6-ton petrol- and diesel-engined models, and 3-ton petrol-engined models. The trailers range from 3-ton to 12-ton models.

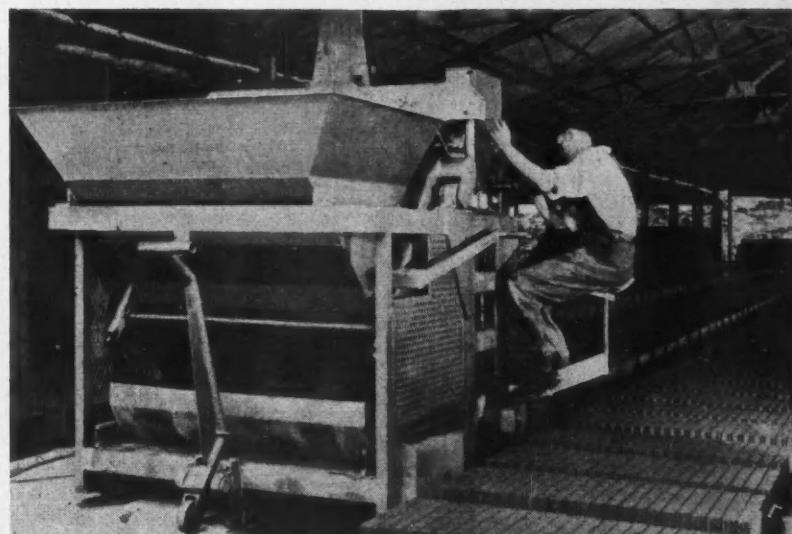
**CONCRETE AND BREEZE BLOCK MACHINE**

CAPABLE of producing 36 breeze or concrete blocks per minute, a machine which can be operated by one man is being manufactured by Welding Industries, Ltd., Bristol.

Three levers operate a Towler axial pump with valves controlling the filling of

the mould, tamping and ejection. As the machine progresses along the curing area, the blocks are ejected onto the floor without any handling. The machine can move 40 tons of material an hour.

Hydraulic equipment and controls are by Towler Brothers (Patents), Ltd.



Machine producing breeze blocks

## Current Constructional Activities

### PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

#### BUILDING AND DECORATING

(See also Housing Schemes)

**Altrincham, Ches.** — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for new group pharmacy at Maternity Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1964-65.

**Ashton-under-Lyne, Lancs.** — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for male psychiatric unit at General Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1961-62.

**Ayrshire.** — The Western Regional Hospital Board, 351 Sauchiehall Street, Glasgow, C.2, propose two new general hospitals, each with 400 beds, on the sites of existing buildings—Heathfield Hospital, Avr., and Kirklandside Hospital, Kilmarnock.

**Barrow-in-Furness, Lancs.** — Ministry have approved scheme for conversion of 12 Albert Street to provide resident medical staff accommodation at the North Lonsdale Hospital, for Manchester Regional Hospital Board. Estimated cost £2,049.

**Bermondsey.** — B.C. recommended to appoint Mr. E. Berry Webber, 39 Gordon Square, London, W.C.1, to prepare preliminary sketch plans for redevelopment of the site of the former Rotherhithe Town Hall and Library and Rotherhithe Assembly Hall.

**Bishop Auckland, Dur.** — The Swale Estate, South Church Road, are seeking permission to erect a dance hall and restaurant.

**Blackburn, Lancs.** — Ministry have approved in principle scheme for the provision of a new boilerhouse and plant at Queen's Park Hospital, for Manchester Regional Hospital Board.

**Bletchley, Bucks.** — Home Office have approved C.C.'s scheme, for inclusion in the 1962-63 programme, the provision of a new fire station and northern divisional headquarters.

**Bolton, Lancs.** — B.C. recommended to apply for sanction to borrow £5,300 for provision of piled foundations for erection of blocks 8, 9 and 10 in the School Hill redevelopment area.

**Bolton, Lancs.** — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for treatment unit and occupational unit at District General Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1961-62.

**Bournemouth, Hants.** — Wessex Regional Hospital Board recommended to appoint I. Todd, Beacon House, 15a Christchurch Road, as quantity surveyor, for alterations to kitchens, and sketch plans for extensions to dining rooms at Royal Victoria Hospital, Boscombe.

**Chatham, Kent.** — B.C. recommended to approve, subject to conditions, plans for the demolition of 195-203 New Road and erection of two-storey office block, with car space, for W. Keary, c/o D. A. Fuller, 168 New Road, Chatham.

**Chelsea.** — B.C. recommended to appoint Eric G. Lynde and Partners, 41 Russell Square, London, W.C.1, as the quantity surveyors for stage I of modernisation and conversion of Grove Buildings, and for stage I of modernisation of changing accommodation in the Public Baths.

B.C. recommended to appoint Anderson Forster and Wilcox, 9 Stone Buildings, London, W.C.2, as the architects, and Eric G. Lynde and Partners, London, W.C.1, as the quantity

surveyors for demolition and rebuilding of Elm Park House.

**Chester-le-Street, Dur.** — Factory additions are proposed at Durham Road, Birtley, for Leverton and Co., Ltd. No contracts have been let. The architect is John Smith, 1 Church Street, Heckmondwike, Yorkshire.

**Christchurch, Hants.** — Ministry have approved sketch plans for extension to laundry at Christchurch Hospital for the Wessex Regional Hospital Board. Bills of quantities and working drawings are being prepared. Galloway and Partners, 10 Portland Street, Southampton, are the architects, and I. Todd, Beacon House, 15a Christchurch Road, Bournemouth, quantity surveyor for the scheme. Estimated cost £59,700.

**Consett, Dur.** — E. Gordon Crofts, 49 Grange Road, Darlington, is the architect for alterations to the Consett Irish Democratic Club. A contract will be arranged as soon as possible after planning approval has been received. Estimated cost £11,000.

**Coulsdon, Surrey.** — South West Metropolitan Regional Hospital Board have appointed Howes and Jackman, 1 Verulam Buildings, Grays Inn, London, W.C.1, as architects for a new occupational therapy department at Cane Hill Hospital. The work is estimated to cost £11,284.

**Dagenham, Essex.** — B.C. recommended to approve in principle, for submission to Ministry for approval, scheme for major improvements at the Salvage Plant comprising: (a) The construction of waste paper handling units, estimated cost £7,500; (b) construction of bulky article incineration plant with separate chimney, £9,000; (c) improvement to the existing reception bay with covered area and dust extraction plant, £3,250; and (d) the preparation of site works, roads, etc., £5,000, and authorise John Haiste and Partners, consulting engineers, 4 Queens Square, Leeds, 2, to prepare detailed drawings, etc., and invite tenders for such work as is approved by the Ministry.

**Darlington, Dur.** — B.C. approved sketch plans for the erection of a centre for handicapped people at Yarm Road. The revised cost is estimated at £13,000.

**Doncaster, Yorks.** — Planning permission granted for redevelopment for public house with shop on ground floor, Baxter Gate/St. George Gate, for Richard Whitaker and Sons, Ltd., Corporation Street, Halifax.

**Dorchester.** — Wessex Regional Hospital Board recommended to approve sketch plans for a mortuary at Dorset County Hospital.

**Edinburgh.** — Dean of Guild Court have approved the erection of an electronic data-processing centre at Bankhead Causeway North on the Sighthill Industrial Estate, for The National Coal Board, 1 Eglington Crescent, Edinburgh, 12. Estimated cost £200,000.

T. Bowhill, Gibson and Laing, 6 Manor Place, Edinburgh, 3, are the architects for a bus depot to be erected at Marine Gardens, Portobello, for Corporation Transport. Estimated cost £220,000.

Dean of Guild Court have approved the erection of a hall at Lamb's House, Leith, for Edinburgh and Leith Old People's Welfare Council. Estimated cost £12,000.

**Falkirk, Stirlings.** — Baron Bercott, 118 Blythswood Street, Glasgow, C.2, is the architect for new municipal buildings at Westbank, for B.C. Estimated cost £600,000.

**Finsbury.** — L.C.C. planning permission is being sought for extensions to students' hostels and laboratories at Medical College of St. Bartholomew's Hospital, Charterhouse Square, for which the architects are Easton and Robertson, 53 Bedford Square, London, W.C.1.

**Fulham.** — L.C.C. planning permission is being sought for an air terminal and hotel, and a new railway station, at Lillie Bridge, for which the architects are Lam, Biel, and Partners, 16 Bryanston Street, London, W.1.

**Fulwood, Lancs.** — Manchester Regional Hospital Board recommended to approve working drawings and bills of quantities for provision of a new out-patients' department at Sharoe Green Hospital, Fulwood, near Preston, for submission to the Ministry.

**Grangemouth, Stirlings.** — Dean of Guild Court have approved alterations to provide extra accommodation at Bo'ness Road and Lumley Street, for Bank of Scotland. Estimated cost £10,000.

**Harrogate, Yorks.** — B.C. have granted planning permission for erection of workshop and

offices at Hookston Park for Bell Plant Hire, Ltd., and amended application for erection of offices, store and parking facilities at Station Parade/Station Bridge for British Railways.

**Herrington, Dur.** — A scheme is being considered for the erection of new premises for Herrington Burn Y.M.C.A. Estimated cost £25,000.

**Inverness.** — Ian Burke, 11 South Tay Street, Dundee, is the architect for the redevelopment of South side of Bridge Street which Murryfield Real Estate Co., Ltd., Edinburgh, are to develop for B.C. The scheme includes the provision of a department store, 10 large shops, four small shops, and hotel and restaurant and a public library and reading room. Estimated cost £500,000.

**Islington.** — B.C. recommended to appoint Arthur Boxall and Partners, 7 Queen Anne's Gate, London, S.W.1, as the quantity surveyors for additional buildings at Trent Park Cemetery.

**Kensington.** — B.C. recommended to approve a scheme for conversion of 109 Oxford Gardens into 10 old people's flats, and to invite tenders for the work. Estimated cost £13,910.

**Lambeth.** — B.C. recommended to appoint Wm. C. Inman and Partners, 7 New Square, London, W.C.2, as the quantity surveyors for stage 1 of the proposed Loughborough Depot, and for proposed redevelopment of 10-16 Acre Lane by erection of shops with Council offices above.

**Lancaster.** — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for residential accommodation for married medical staff at Royal Lancaster Infirmary. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1961-62.

Ministry have approved in principle scheme for provision of a regional sub-centre at the Lancaster Moor Hospital, for Manchester Regional Hospital Board.

**Leamington Spa, War.** — B.C. recommended to obtain tenders for the improvement of 174 houses at Bury Road.

**Leicester.** — City Council recommended to lease land at Vaughan Way/Blue Boar Lane to Davis Manufacturing Co. (Leicester), Ltd., for the erection of a factory; at Vaughan Way/Burgess Street/Vine street to Kerr's (Great Britain), Ltd., Warton Road, Stratford, E.15, for the construction of offices, showrooms and stores.

**Liss, Hants.** — Wessex Regional Hospital Board recommended to approve sketch plans for accommodation for matron at Grange Maternity Home.

**London.** — L.C.C. approved plans by Enthonow and Mock, 4 Raymond Buildings, Grays Inn, London, W.C.1, for alterations and improvements at the City of London College. Estimated cost £109,904.

**Luton, Beds.** — B.C. recommended to approve sketch plans and invite tenders for the erection of 30-40 brick-built garages with concrete roofs at the rear of Bristol Road, estimated cost £6,800; prepare detailed drawings and specifications with a view to inviting tenders for the erection of shops at Wigmore Lane, Ramridge estate; are preparing bills of quantities and hope to invite tenders shortly for the erection of civil defence headquarters and control centre.

**Macclesfield, Ches.** — Manchester Regional Hospital Board Buildings and Works Committee have approved in principle scheme for outdoor staff canteen and cloak room at West Park Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1961-62.

**Manchester.** — Estates Management Committee to allocate to the Chesters' Brewery, Ltd., a site at Windermere Road, Langley, for erection of a public house.

City Council to negotiate with James Cubitt and Partners, architects, 25 Gloucester Place, London, W.1, as to the terms upon which they would undertake certain work in connection with phase II of the new terminal building at the Airport.

City Council recommended to apply for sanction to borrow £7,425 for full-time club for old people at Barmouth Street, Beswick.

Town Planning approval granted for the erection of temporary class-rooms. St. Joseph's R.C. Primary School, Plymouth Grove, Longsight; erection of primary nursery school and caretaker's bungalow, site bounded by Rochdale Road, Collyhurst Street, Teignmouth Street and Arnold Street, Collyhurst; de-

training platforms and pens for livestock and unloading platforms for reception of dead meat at abattoirs, Cemetery Road, Briscoe Lane and Ten Acres Lane, Newton Heath; erection of police workshops, St. Joseph's Police Buildings, Richmond Grove, Longsight; erection of part single-storey, part two-storey motor taxation office, site bounded by Heywood Street, Churchgate Buildings, Long Street and Court 3, Ancoats; and extension to existing sanitary annexes at blocks G and L (second floor), Newholme, Nell Lane, Withington.

Regional Hospital Board Buildings and Works Committee have approved in principle scheme for new mortuary and sun shelter at Springfield Hospital and extensions to X-ray department at Crumpsall Hospital. Working drawings and bills of quantities to be prepared with a view to work being carried out during 1963-64 and 1962-63 respectively.

Ministry have approved in principle working drawings and bills of quantities for improvements to casualty department and pharmacy at the Victoria Memorial Jewish Hospital, for the Regional Hospital Board.

Ministry have approved scheme for alterations to existing patients' dining hall at Baguley Hospital for Regional Hospital Board. Estimated cost £8,934.

**Middlesbrough, Yorks.** — London and Northern Properties, Ltd., 5 Benton Terrace, Newcastle upon Tyne, are to erect a three-storey block of shops on the site of the Scala Cinema, Newport Road. The architects are Marshall and Tweedy, 36 Blackett Street, Newcastle upon Tyne; office additions are proposed at Cleveland Park Stadium, Stockton Road, for National Greyhounds (Middlesbrough), Ltd. The architects are Garbutt, Archibald and Archibald, 23 Albert Road, Middlesbrough. J. W. Cameron and Co., Ltd., Lion Brewery, West Hartlepool, are to carry out alterations to their Steampacket Inn, Stockton Street, and have prepared their own plans.

Prices, Tailors, Ltd., are to carry out alterations to their factory at Saltwell Road, revised plans have been prepared for alterations and additions to emporium in Linthorpe Road for Middlesbrough Co-operative Society, Ltd. Plans are by the C.W.S. Architects' Department, 90 Westmorland Road, Newcastle upon Tyne.

**Newport, I. of W.** — Wessex Regional Hospital Board recommended to approve sketch plans for surgical registrar's accommodation at St. Mary's Hospital.

**Oldham, Lancs.** — Ministry have approved the provision of prefabricated accommodation for clerical staff at Oldham and District General Hospital, for Manchester Regional Hospital Board. Estimated cost £2,000.

**Poole, Dorset.** — Wessex Regional Hospital Board recommended to approve sketch plans for improvements to theatres at Alderney Hospital; block development plans for the buildings to be erected in stage II, and sketch plans for isolation unit and additional staff quarters at the General Hospital.

Wessex Regional Hospital Board recommended to approve sketch plans for the temporary rehousing of services during the stage II rebuilding at the General Hospital. Estimated cost £24,700.

**Reading, Berks.** — B.C. recommended to approve, subject to conditions, outline application for the erection of an office block at Hagley Road for Robert Cort and Son, Ltd., Reading Bridge Ironworks, Reading.

**St. Marylebone.** — B.C. recommended to appoint Armstrong and MacManus, 28 Gloucester Place, London, W.I., to prepare alternative sketch plans for redevelopment of the Clipstone Street site.

**Southampton.** — Ministry have approved sketch plans for nurses' home extension, stage 2, of the neurosurgical unit at the General Hospital for the Wessex Regional Hospital Board. Working drawings and bills of quantities being prepared.

**Southend-on-Sea, Essex.** — B.C. recommended to submit to M.E. for approval sketch plans for extensions at Eastwood High School for Boys; approve plans for the provision of washing facilities in the main pavilion at Belfairs Central Sports Ground.

**Stafford.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for the provision of stores under the operating theatre at Staffordshire General Infirmary. Estimated cost £4,550.

**Stockton-on-Tees, Dur.** — B.C. have approved outline scheme by the Tees-side Warehousing Co., Ltd., for the erection of a warehouse on the Fordy Industrial Estate, Haverton Hill Road.

Ideal Builders (Stockton), Ltd., 76 Hartburn Avenue, are to erect two single-storey shops and stores in Fairville Road, on the Holstone House estate; B.C. have approved in principle a £19,500 scheme for additions to the health department offices at Yarm Lane.

**Stoke Newington.** — B.C. recommended to appoint Hurst, Peirce and Malcolm, Artillery House, Artillery Row, London, S.W.1, as the consultant structural engineers for extensions to public baths.

**Stoke-on-Trent, Staffs.** — Birmingham Regional Hospital Board recommended to approve in principle scheme for the provision of a staff canteen and recreation room at Stallington Hall Hospital. Estimated cost £29,850.

**Sunderland, Dur.** — J. Nimmo and Son, Castle Eden Co., Durham, are to erect a public-house at Roker Baths Road. Plans have been prepared by the firm's own architect.

Plans are being prepared by C. Dowse, 99 Kenton Road, Gosforth, Newcastle upon Tyne, for the erection of a Congregational Church hall at Galway Road. No contracts let.

**Sutton, Surrey.** — South West Metropolitan Regional Hospital Board appointed P. J. B. Harland, 23 Dorset Street, W.I., as architect for adaptations to the administrative block at Sutton and Cheam Hospital. The work is estimated to cost £22,500.

**Tunbridge Wells, Kent.** — B.C. recommended to approve, subject to conditions, outline application for the erection of 15 flats, with garages, at Grosvenor Park for Leslie Ling and Co., 2a Kensington High Street, London, W.8.

**Walthamstow, Essex.** — B.C. recommended to approve plans for demolition of the existing buildings and the erection of a new office block and store with a caretaker's flat over land adjoining 154 Blackhorse Road, for A. H. Herbert and Co., Ltd., Imperial House, Kingsway, London, W.C.2.

**Wandsworth.** — L.C.C. approved a scheme for the erection of new buildings and adaptations at North House, a boarding special school for the blind. Estimated cost £175,000.

**Welwyn, Herts.** — Ministry have approved in principle, plans for a proposed civic centre at Welwyn, for R.D.C.

**West Hartlepool, Dur.** — Sketch plans have been prepared for the proposed Fens Junior School for E.C. R. H. Duns, Lambton House, Newcastle upon Tyne, and Cairns and Byles, 8 Osborne Road, Newcastle upon Tyne, have been appointed quantity surveyors and heating and electrical consultants, respectively, for the school.

**Winchester.** — Wessex Regional Hospital Board recommended to include, in capital programme scheme for maternity ward improvements at Royal Hampshire County Hospital.

**Wolverhampton, Staffs.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for additional maternity and nursing accommodation at the Women's Hospital. Estimated cost £22,000.

**Wolverhampton, Staffs.** — B.C. have approved the appointment of Henry Vale and Son, 47 Waterloo Road, Wolverhampton, as quantity surveyors, and S. Willis and Associates, 41 Water Street, Birmingham, 3, as structural engineers for the enlargement of Highfields Secondary School; subject to M.E. approval, schemes for alterations at Monmore Green annexe of the College of Art, provision of toilets, kitchenette and electrical rewiring at Bradmore Community Centre, and formation of biology laboratory at Whitmore Secondary School. Estimated cost £1,750, £2,250 and £1,000, respectively.

#### ELECTRICAL

**Birmingham.** — Regional Hospital Board recommended to approve in principle, scheme for the provision of a bed lift at St. Chad's Hospital. Estimated cost £9,650.

**Rugby, War.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for the provision of a bed lift and small dayroom at St. Luke's Hospital. Estimated cost £9,430.

#### GAS AND WATER SUPPLY

**Doncaster, Yorks.** — B.C. recommended to apply for sanction to borrow £1,700 for laying a 9in. water main along the link road between St. George Gate and High Fisher Gate.

**Leamington Spa, War.** — B.C. recommended to apply for sanction to borrow £1,800 for the installation of additional pumping equipment for the Willington area.

**Norwich.** — City Council recommended to apply for sanction to borrow £10,000 for water mains extensions; approve the laying of water mains: (a) Along parts of Ipswich Road and Grove Road and from Grove Avenue to Newmarket Road; and (b) for the purpose of supplying the brick kilns area of Little Plumstead with piped water. Estimated cost £20,000 and £8,000 respectively.

**Scotland.** — The Scottish Gas Board propose to lay 21 miles of 16in. diameter pipeline from Granton Gasworks, Edinburgh, to Grange-

mouth. A further 23 miles is to be laid between Granton, Armadale and Falkirk to link up with the super-grid.

**Tunbridge Wells, Kent.** — B.C. recommended to approve the laying of an additional 15in. main between the tunnel in Redwing Lane and Pembury Waterworks. Estimated cost £1,920.

**Worcester.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for improvements to water storage at Newtown Hospital. Estimated cost £8,500.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Argyllshire.** — Department of Health for Scotland have approved a plan to construct a jetty at Tayinloan, for C.C. Estimated cost £10,000.

#### HEATING AND VENTILATING

**Bermondsey.** — B.C. recommended to appoint F. S. Snow and Partners, 144 Southwark Street, London, S.E.1, as the ventilating engineers for the ventilation system at block 2, Camilla Road site.

**Bromsgrove, Worcs.** — Birmingham Regional Hospital Board recommended to include in the capital programme, scheme for extension to low pressure hot water heating in nurses' home at Bromsgrove Cottage Hospital. Estimated cost £1,139.

**Warwick.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for the provision of coal handling plant at the Central Hospital, Hatton. Estimated cost £14,500.

**Wolverhampton, Staffs.** — Birmingham Regional Hospital Board recommended to approve in principle, scheme for the renewal of the main engineering services at the Women's Hospital. Estimated cost £20,000.

#### HOUSING SCHEMES

**Boldon, Dur.** — Gordon Durham and Co., Ltd., Moor Lane, East Boldon, are seeking permission to develop a private housing estate at Newcastle Road, West Boldon.

**Boldon, Dur.** — Gordon Durham and Co., East Boldon, propose houses at Newcastle Road, West Boldon.

**Brentford and Chiswick, Middx.** — B.C. recommended to approve schemes for the erection of 22 dwellings and 20 garages at Windmill Road, Brentford; conversion of 100 Duke's Avenue, Chiswick, into three flats. Estimated cost £3,325.

**Darlington, Dur.** — John T. Bell and Sons, Market Street, Newcastle upon Tyne, are to erect two large shops and four small shops on the Firth Moor estate.

Factory additions are proposed at Aycliffe trading estate for Industrial Estates Management Corporation, Gateshead. The architects are Fennell and Baddiley, Bridge End Chambers, Chester-le-Street.

**Durham.** — L. E. Price and Son, Ltd., Gibson Street, Consett, have bought six acres of land on the outskirts of Crook for the erection of houses.

**R. Turley and Associates.** — 46 Jesmond Road, Newcastle upon Tyne, are the architects for the erection of 100 houses at Durham City for the North-Eastern Housing Association, Windsor Terrace, Newcastle upon Tyne.

City Council are to erect 26 dwellings at Crossgate and 14 at Church Lane; to erect two houses and 12 flats in Church Lane and in the Elvet clearance area. No contracts let.

Layout plans approved for the erection of further houses at Kepier Farm for Wilkinson Bros. Ltd., 60, West Street, Gateshead.

**Hayes, Middx.** — Plans have been prepared by Theo. H. Birks, 38 Portland Place, London, W.I., architect for the erection of residential dwellings at Uxbridge Road, for Groveway Properties, Ltd.

**Hebburn, Dur.** — U.D.C. are planning the erection of 102 bungalows and communal hall on the Ponds site, and the work will be put out to tender; Council are renewing their application for planning permission for proposed houses in Campbell Park Road, Hebburn; William Leech, Ltd., St. James Street, Newcastle upon Tyne, are to carry out further private housing developments at Bill Quay.

**Hertford.** — B.C. have approved plans for the first phase of the redevelopment at Horns Hill, comprising the demolition of 20 prefabricated houses and erection on site of a block of 12 flats, 20 houses and 27 garages.

**Hertford.** — B.C. recommended to approve, subject to condition, plans for the erection of 19 detached houses at Hagsdell Road, for McManus and Co., Ltd., Mimms Hall Road, Potters Bar, Middx.

**Houghton-le-Spring, Dur.** — J. Berriman, Ltd., Woodlands Joinery Works, Fence Houses, are seeking permission to erect 18 houses at the rear of Warden Grove.

**U.D.C.** are considering the erection of houses on 35 acres of land at Blind Lane, **Jarrow, Dur.**—Wimpey and Co., Ltd., Orchard House, Fenwick Terrace, Newcastle upon Tyne, are seeking permission to erect houses near Hedworth Lane.

**Leamington Spa, War.**—B.C. recommended to approve sketch plans and subject to Ministry approval invite tenders from selected contractors for the erection of blocks of 26 flats at the Rugby Road flats.

Town Planning Committee have approved subject to conditions amended outline application for the erection of 15 flats and 15 garages at 57, Binswood Avenue, for Bee-Jay (Buildings), St. Nicholas Church Street, Warwick.

**Luton, Beds.**—B.C. recommended to reinvite tenders at the end of the year for the erection of dwellings at Eaton Green Road.

Town Planning Committee have approved subject to conditions, plans for the erection of 55 dwellings and garages at Icknield Nursery, off Limbry Road, for Pearce and Barker, Ltd., 71 Leagrave Road, Luton.

**Middlesbrough, Yorks.**—Plans are being considered for the erection of 78 bungalows at Acklam Road for Premier Dwellings, Ltd., 157 Albert Road. The architects are Garbutt, Archibald and Archibald, 23 Albert Road.

Premier Dwellings, Ltd., 157 Albert Road, seeking permission to erect multi-storey flats in South Road, Norton-on-Tees.

**North Riding.**—John T. Bell and Sons, Market Street, Newcastle upon Tyne, have resubmitted to the North Riding planning authorities a revised scheme for the erection of 3,000 houses at Hemlington Park, south of Middlesbrough. The first scheme was rejected about 18 months ago.

**St. Pancras.**—B.C. have authorised boring of trial holes and soil tests for the second stage of the Ferdinand Street extension scheme, providing for an 11-storey block of flats.

B.C. recommended to appoint Rider, Hunt and Partners, Bridge House, Queen Victoria Street, London, E.C.4, as the quantity surveyors; and Bylander and Waddell, 169 Wembley Park Drive, Wembley, Middx., as the structural engineers for the Lamble Street (No. 1) extension scheme.

**Smeathwick, Staffs.**—B.C. recommended to approve layout plans for two five-storey blocks comprising 20 dwellings at Broadmoor House and Cottage site and two four-storey blocks comprising 16 maisonettes at Arden Road.

**Southend-on-Sea, Essex.**—B.C. recommended to prepare plans for the erection of dwellings on land east of Delaware Road (site 33).

**Southgate, Middx.**—B.C. recommended to approve, subject to conditions, plans for the redevelopment of 61 Chase Road, by the erection of 16 flats and 16 garages, for A. A. Prestwich, c/o D. A. Cox, architect, 70 Windmill Hill, Enfield.

**Stanley, Dur.**—U.D.C. are planning the erection houses on the site of a former pit-head at the Willie Pit, which has been levelled.

**Stockton-on-Tees, Dur.**—T. C. Elcoate, Clarence House, Darlington Lane, Norton, proposes housing development on land adjoining Darlington Lane.

**Stoke Newington.**—B.C. recommended to appoint Hurst, Peirce and Malcolm, Artillery House, Artillery Row, London, S.W.1, as the consulting engineers for a nine-storey block of 44 flats and bed-sitting rooms and seven garages. Estimated cost £137,400.

**Totnes, Devon.**—B.C. recommended to approve plans for the erection of four police houses and three garages at Ashburton Road, for C.C.

**Whitby, Yorks.**—U.D.C. considering a re-development scheme for the Tate Hill area.

**Wood Green, Middx.**—B.C. recommended to apply for sanction to borrow £18,918 for the erection of eight flats and six garages at 3/5 Williams Grove.

#### PLANT AND MECHANICAL TRANSPORT

**Nelson, Lancs.**—B.C. recommended to purchase a new Karrier mechanical sweeper vehicle and an Atkinson Gritting Machine Body. Estimated cost £3,230 and £457 respectively.

**South Shields, Dur.**—B.C. recommended to spend £4,640 on the provision of a running track, etc., at Gypsies Green.

#### PLAYING FIELDS, PARKS, ETC.

**Barking, Essex.**—B.C. recommended to approve scheme for surfacing with tarmac-adam, seeding the remainder with grass and providing fencing to match the existing fencing, at site four, Bastable Avenue. Estimated cost £2,670; apply for sanction to borrow £4,450 for the laying out of pitch and putt course at Mayesbrook Park.

**Bolton, Lancs.**—B.C. recommended to apply for sanction to borrow £1,653 for soiling,

seeding and tree planting at Eden Street and Old Road and at Goldrill Avenue.

**Chatham, Kent.**—B.C. recommended to approve scheme for the provision of an ornamental entrance from Brook to the Town Hall Gardens. Estimated cost £2,310.

**Harrow, Middx.**—B.C. recommended to approve scheme for the construction of a children's playground at Kenmore Park.

**Leamington Spa, War.**—B.C. recommended to prepare scheme for the provision of a childrens playground at Mason Avenue, in the Eden Court area.

#### RIVER AND FLOOD PREVENTION WORKS

**Bolton, Lancs.**—B.C. recommended to approve works of repair, resulting from flood damage, in the Barrow Bridge and Smithills district. Estimated cost £5,100.

#### ROADS, BRIDGES AND SITE WORKS

**Argyllshire.**—C.C. propose repairs to Musdale Road, North Lorn, including repairs to Kilmore Bridge. Estimated cost £32,800.

**Chatham, Kent.**—B.C. recommended to prepare plans for the widening of Lordswood Lane. Estimated cost £2,330.

**Chelmsford, Essex.**—B.C. recommended to apply for sanction to borrow £2,820 for the improvement of Navigation Road; proceed with the preparation of working drawings for the proposed Inner Ring Road, from Baddow Road to Burgess Well Road for submission to M.T. for approval. Estimated cost £373,000.

**Glasgow.**—City Council have approved plans for converting parts of the Forth and Clyde Canal and the Monkland Canal into modern highways.

**Grangemouth, Stirling.**—Dean of Guild Court have approved plans for the site preparation for the erection of a gas filling and storage plant at Bo'ness Road for Calor Gas (Distributing) Co., Ltd., 178 Great Portland Street, London, W.I. Estimated cost £230,000.

**Hackney.**—B.C. recommended to approve widening and realignment of Well Street from east of the junction to Frampton Park Road, and to approve introduction of a new island and traffic signals at junction of Mare Street and Well Street.

**Hebburn, Dur.**—U.D.C. to carry out improvements to Mill Lane and the first stage of the work will cost about £9,990.

**Heywood, Lancs.**—B.C. recommended to apply for sanction to borrow £6,535 for reconstruction of Sefton Street.

**Iford, Essex.**—B.C. recommended to invite tenders from selected contractors for widening of footpath at Aldborough Road Bridge.

**Ikeston, Derbys.**—B.C. recommended to prepare plans for the making-up of Cromwell Avenue, Doris Road and Fairfield Road; approve scheme for the improvement of Longfield Lane, section two.

**Jarrow, Dur.**—B.C. to spend over £20,000 on private street works in the Bede Burn Road area.

**Leeds.**—City Council recommended to apply for sanction to borrow £116,410 for siteworks and construction of roads and sewers on the Belle Isle estate, area D, Manor Farm; to approve the construction of a footpath and verge in Elmte Lane, along the frontage to Braim Wood School and widening of existing footpath, estimated cost £1,260; construction of a footpath and verge in Armley Ridge Road, £2,100; construction of standing bay and footpath in Regent Street, £920.

**Luton, Beds.**—B.C. recommended to approve plans for the making up of Stoneygate Road (part).

**Newtownabbey, Antrim.**—U.D.C. propose to construct a fly-over and dual carriageway at the junction of Doagh Road and Shore Road. Estimated cost £60,000. Work is expected to start early next year.

**Norwich.**—City Council recommended to approve scheme for improvements to Newmarket Road. Estimated cost £10,883.

**Ramsgate, Kent.**—B.C. recommended to approve in principle plans for the widening and reconstruction of Pyson's Road. Estimated cost £14,690.

**Romford, Essex.**—B.C. recommended to apply for sanction to borrow £14,950 and £2,900 respectively for the resurfacing of Pettits Lane North and Heather Close.

**St. Albans, Herts.**—City Council recommended to approve, in principle, plans for the improvement of Sandpit Lane/Homewood Road/Woodstock Road.

**Smeathwick, Staffs.**—B.C. recommended to apply for sanction to borrow £24,900 for construction of roads and sewers at Cranford Street industrial area and £28,600 for reconstruction of High Street from Stony Lane to St. Paul's Road.

**Southend-on-Sea, Essex.**—B.C. recommended to approve scheme for the widening of Station Road. Estimated cost £2,250.

**Watlington, Oxon.**—B.C. recommended to approve scheme for the widening of Forest

Road from Lloyd Park to Holmes Avenue. Estimated cost £9,950; prepare plans for the making-up of Selwyn Avenue (part).

**Woolwich.**—B.C. recommended to approve, in principle, a proposal to conjoin the Whitefoot Lane extension by Lewisham B.C. by provision of dual carriageways and a service road in Mottingham Lane, and by the construction of a fly-over junction connecting Mottingham Lane with Sidcup Road.

B.C. recommended to carry out widening of Beresford Street, on the west side of Macbean Street and 44 Beresford Street, estimated cost £13,000; improvement of Woolwich Church Street, east of and including the junction with Frances Street, with replacement of sewer, £20,000; and the second stage of widening of Harrow Manorway, between Eynsham Drive and the railway line, £34,800, all subject to financial approval.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Aylesbury, Bucks.**—C.C. recommended to grant £13,375 towards the cost of R.D.C.'s sewerage and sewage disposal scheme at Hardwick and Weedon.

**Beverley, Yorks.**—B.C. recommended to approve, in principle, land drainage works on the site for refuse disposal at Weel Road. Estimated cost £1,200.

**Dagenham, Essex.**—B.C. recommended to appoint John Taylor and Sons, consulting engineers, Artillery House, Artillery Road, London, S.W.1, to prepare scheme for improvements to the foul sewerage system.

**Hackney.**—B.C. recommended to carry out reconstruction works to sewers in Elderfield Road and Chatsworth Road. Estimated cost £26,475.

**Leeds.**—City Council recommended to approve the construction of a new 15in. outlet sewer at Shawdell. Estimated cost £2,700.

**Nottingham.**—City Council recommended to approve the construction of a new surface water sewer at Glaistead Drive industrial estate. Estimated cost £6,200.

**Romford, Essex.**—B.C. recommended to apply for sanction to borrow £12,030 for the provision of a foul sewer to serve premises in the Noak Hill district.

**Startforth, Yorks.**—Ministry have approved the Barningham sewerage scheme for the R.D.C. at a cost of nearly £17,000.

**Walthamstow, Essex.**—B.C. recommended to submit to Ministry for approval scheme for the relief of flooding in the Blackhorse Lane area and provision of a relief surface water sewer in the Tenby Road area. Estimated cost £72,000 and £10,000 respectively.

**Welwyn, Herts.**—R.D.C. are to submit to Ministry a new main sewerage scheme for the Oaklands and Woolmer Green areas. Estimated cost £137,000.

**Wing, Bucks.**—C.C. recommended to grant £2,000 towards the cost of R.D.C.'s sewerage and sewage disposal scheme at Ledburn.

**Woolwich.**—B.C. recommended, subject to financial approval, to lay a new sewer in place of the existing sewer draining land to rear of properties in Chelsworth Drive. Estimated cost £4,000.

**Wycombe, Bucks.**—C.C. recommended to grant £50,850 towards the cost of R.D.C.'s sewerage and sewage disposal scheme at Tyers Green and Penn.

#### STREET LIGHTING

**Nottingham.**—City Council recommended to approve scheme for improved lighting at Bagnall Road and conversion area 43. Estimated cost £1,610 and £1,710 respectively.

**Woolwich.**—B.C. recommended, subject to financial approval, to carry out relighting of Footscray Road, from Eltham High Street to the borough boundary. Estimated cost £10,900.

#### CONTRACTS

Full details of the Contracts marked \* will be found in our Advertisement Columns.

#### BUILDING AND DECORATING (See also Housing Schemes)

**Aberdare, Glam.**—Replacing 100 baths in houses, for U.D.C. Documents from the Engineer and Surveyor's Department, Vestry Hall, Aberdare. Tenders by August 25.

**Aberystwyth, Card.**—Interior decoration of the King's Hall, for B.C. Documents from the Borough Surveyor, Park Avenue, Aberystwyth. Tenders by September 11.

**Abingdon, Berks.**—Provision of bathrooms, external painting and ancillary works to four houses at Stocks Lane, Stevenston, for R.D.C. Documents from the Housing Manager, Council Offices, 60 Bath Street, Abingdon. Deposit £2,200. Tenders by September 4.

**Acton, Middx.**—Construction of a brick retaining wall of about 63 cu. yd. (13½ in. by 6 ft.

6in. high) in Old Oak Common Lane, W.3, for B.C. Documents from the Borough Engineer, Town Hall, Acton, W.3. Tenders by August 31.

**Ballymena, Antrim.**—Alterations to Mid-Antrim Laboratory, Ballymena, for Mid-Antrim Hospitals' Management Committee. Documents from Secretary, Mid-Antrim Hospitals' Management Committee, Braid Valley Hospital, Ballymena. Deposit £3 3s. Tenders by August 25.

**Barnstaple, Devon.**—Exterior re-pointing of the undermentioned properties: (Group 1) Woodpark Berryarbor—4 houses; (2) The Square, Bishops Tawton, River View Bishop's Tawton, Cobbaton Cottages, Cobbaton—11; (3) part of Pill Gardens, Braunton—31; (4) Orchard Villas, Croyde, Rectory Close, Heanton—12; (5) Crossway Cottages, Landkey, Orchard Cottages, Landkey—8; (6) Ash Park, Parracombe, West View, Martinhoe—12; (7) Hilltop Cottages, Shirwell, Cross Park, Shirwell, South View, Puxford—16; (8) Hilltop, Fremington Agricultural Cottages, Fremington, Corner Cottages, Fremington, The Orchards, Lovacott—18; (9) part of Oaklea Crescent, Fremington, part of Beechfield Road, Fremington—29. Order for the work to commence will be given to successful contractors on or before September 4, and all work must be completed by November 25. Documents from Housing Manager, The Red House, Castle Street, Barnstaple. Tenders by August 31.

**Basildon, Essex.**—Winifred Road housing estate, Pitsea, erection of 42 garages in six blocks, for U.D.C. Applications to the Engineer and Surveyor, 88 Town Square, Basildon, by September 4. Deposit £2 2s.

**Beaminster, Anglesey.**—Contract 7, Green Edge, for B.C. Tenders by September 13.

**Beckenham, Kent.**—Erection and completion of four brick-built dressing rooms as an addition to the present pavilion at "Havington", South Eden Park Road, for B.C. Documents from James Dove, borough engineer, Town Hall, Beckenham. Deposit £2. Tenders by September 15.

**Belfast.**—Erection of a cycle shed and play-shelter, also for the work in connection with the preparation of ground to form a horticultural plot at St. Patrick's Boys' Intermediate School, "Barnageeha", Antrim Road, Belfast. Documents from McLean and Forte, architects, 37 Malone Road, Belfast 9. Deposit £3 3s. cheque. Tenders by August 24.

**Belfast.**—Following, for City Council: (a) Construction of children's shelter and changing pavilion, etc., at proposed Oldpark Road playing fields; (b) complete electrical installation; (c) complete oil-fired l.p.h.w. space heating installation and (d) complete plumbing installation a Somerdale Boys' Secondary School, Somerdale Park. Documents from City Architect's Department, 40 Academy Street, Belfast 1. Tenders by August 30 for (a) and September 7 for (b, c, and d).

**Berkhamsted, Herts.**—Erection of a building to house cleansing vehicles at the rear of offices at Boxwell House, 275 High Street, for R.D.C. Documents from the Surveyor, Boxwell House, 275 High Street, Berkhamsted. Tenders by September 1.

**Bognor Regis, Sussex.**—Supply, delivery and erection of one block of 11 prefabricated concrete garages in Ash Grove for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Bognor Regis. Tenders by Sept. 8.

**Bognor Regis, Sussex.**—External decoration of the Beaulieu Downs Hotel, Esplanade, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Bognor Regis. Tenders by Aug. 28.

**Bognor Regis, Sussex.**—Re-tiling of the roofs of semi-detached bungalows at 2 and 4 Greynville Close, Carlton estate, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Bognor Regis. Deposit £1 1s. Tenders by Sept. 4.

**Bournemouth, Hants.**—Provision of new cloak and sanitary accommodation at Malmesbury Park C.P. School, Malmesbury Park Road, and Pokesdown C.P. School, Livingstone Road, for B.C. Documents from the Borough Architect's Office, Room 106, Town Hall, Bournemouth. Deposit £1 1s. each. Tenders by Sept. 8.

**Brierley Hill, Staffs.**—Construction of public conveniences at Leys Road, Buckpool, near the junction with Moor Street, for U.D.C. Documents from the office of the Engineer and Surveyor, Civic Buildings, Brierley Hill. Deposit £2 2s. Tenders by Aug. 31.

**Bristol.**—Erection of three-bay fire station at Clothier Road, Brislington, for Fire Brigade Committee. Applications to City Architect, Council House, Bristol, 1, by Aug. 22.

**Cardiff.**—Blackweir Ambulance Depot extension: Supply, delivery and erection of structural steelwork for the above extension for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s. cheques payable to Corporation. Tenders by Aug. 23.

**Carrickfergus, Antrim.**—Construction of 10 lock-up garages at Barn Road, Victoria estate, for B.C. Documents from T. McVea, town clerk, Town Hall, Carrickfergus. Deposit £2. Tenders by Sept. 4.

**Chichester, Sussex.**—Erection of a public convenience at Oaklands Park for City Council. Documents from the office of the City Engineer and Surveyor, Greyfriars, North Street, Chichester. Deposit £2 2s., cheques payable to Corporation. Tenders by Aug. 28.

**Clitheroe, Lancs.**—Erection of a store at the rear of the bandstand, The Castle, for B.C. Documents from the Borough Engineer, Town Hall, Clitheroe. Deposit £2. Tenders by August 29.

**Colne Valley, Yorks.**—Re-pointing of one external wall at the Town Hall, Cross Street, Slaithwaite, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Cross Street, Slaithwaite. Tenders by August 24.

**Croydon, Surrey.**—Improvements to sanitary accommodation at the Ingram Boys' School, Ingram Road, Thornton Heath, for B.C. Applications to the Chief Education Officer, 19 Katherine Street, Croydon. Tenders by August 29.

**Croydon, Surrey.**—Improvements to sanitary accommodation at the Cypress Junior School, Cypress Road, South Norwood, for B.C. Applications to the Chief Education Officer, 19 Katherine Street, Croydon. Tenders by August 29.

**Croydon, Surrey.**—New gymnasium and alterations to classrooms at the Selhurst Boys' Grammar School, The Crescent, for B.C. Documents from the Chief Education Officer, 19 Katherine Street, Croydon. Tenders by September 26.

**Darlington, Dur.**—Erection of Branksome Secondary School (600 places), for B.C., comprising a four-storeyed steel-framed building constructed in the Thermoguard System. Documents from the Borough Architect, Central Building, Darlington. Deposit £2 2s. Tenders by September 12.

**Durham.**—Following, for C.C.: Framwellgate Moor Civil Defence Headquarters: extensions; Bishop Auckland Civil Defence Centre, erection; Police Headquarters, Aycliffe, alterations to workshops. Applications to County Architect, South Street, Durham, by August 23.

**Ellesmere Port, Ches.**—Minor alterations and additions, Municipal offices Whitby Hall contract 316, for B.C. Documents from the Borough Engineer and Surveyor, Queen Street, Ellesmere Port, on August 18. Tenders by September 11.

**Enniskillen, Fermanagh.**—Erection of an extension to St. Michael's Grammar School, for His Lordship Most Rev. Eugene O'Callaghan. Documents from John A. Tynan, quantity surveyor, 33 Malone Road, Belfast. Deposit £6 6s. Tenders by August 31.

**Essex.**—Poplars, Hostel for Elderly Persons, Walton-on-Naze: Alterations and additions in traditional construction, estimated cost £9,000 for C.C. Applications to H. Conolly, county architect, County Hall, Chelmsford, by Aug. 19.

**Evesham, Worcs.**—Improvement works, including the formation of bathrooms to 52 houses in Deacle Place and King's Road, for B.C. Applications to Pemberton and Bateman, 21 Vine Street, Evesham, by August 21. Deposit £2 2s. Tenders by September 16.

**Gipping, Suffolk.**—Improvements to six houses at Bramford for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Needham Market. Deposit £2 2s. Tenders by Aug. 22.

**Gosport, Hants.**—Erection of single-storey shop with living accommodation, approximately 2,200 super. ft., with appurtenant works, in Trinity Green, for B.C. Applications to the Borough Engineer, The Hall, Trinity Green, Gosport. Deposit £2 2s. Tenders by Sept. 11.

**Guildford, Surrey.**—Erection of 142 garages and ancillary works on various sites in the district, for R.D.C. The documents have been divided into two area groups: (a) East—78 garages; (b) West—64 garages. Applications to J. W. Snape, engineer and surveyor, Millmead House, Guildford. Deposit £2 2s. each group. Tenders by September 7.

**Hull.**—Erection of a three-storey building comprising shops, showrooms, etc., at 20/30 Brook Street, for City Council. An access road and car park are included. Documents from H. F. Alston, Town Planning Officer, Guildhall, Kingston upon Hull. Deposit £5 5s. Tenders by August 29.

**Kingswood, Glos.**—Erection of stone boundary walls at Mount Hill Road, Kingswood, Bristol, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, High Street, Kingswood. Deposit £10 cheque. Tenders by August 25.

**Lanarkshire.**—Sheriff Court, Hamilton: Internal painter work for C.C. Written applications to D. G. Bannerman, county architect, 34 Albert Street, Motherwell, by Aug. 25.

**Lancashire.**—Following for C.C.: Erection of a temporary library at Halewood. Work includes concrete foundations and slab for a single-storey prefabricated timber building to be supplied and erected by a nominated subcontractor, also site works, drainage, services and finishes; take down and re-erect in new position 80yd. run of wrought-iron railings and supply and erection of approximately 640yd. run of 5ft. high wrought-iron railings on the site of the Farnworth Harper Green County Secondary School; erection and completion of detached house, together with siteworks and drainage at Gables Farm, Lindle Lane, Hutton Institute of Agriculture. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by August 21.

**Lancashire.**—Repainting of exteriors of the following, for City Council: (a) Beaumont estate (part II), 89 houses; (b) Newton estate (part I), 124 houses and three shops; (c) Hare Runs estate 1st and 2nd developments (part III), 102 houses. Documents from the Deputy City Engineer, Town Hall, Lancaster. Tenders by September 4.

**Lancaster.**—Decoration of Council chamber, waiting room and adjoining office at the Council Offices, 5 Dalton Square, for R.D.C. Documents from the office of the Surveyor at that address. Tenders by August 23.

**Letchworth, Herts.**—Additional changing rooms at the swimming pool in Icknield Way for U.D.C. Applications to the Engineer and Surveyor, Town Hall, Letchworth. Deposit £2 2s. Tenders by Aug. 25.

**Liverpool.**—Following for City Council: (a) extensions to Finch Hall Schools, Liverpool, 14; (b) changing accommodation, Sparrow Hall Playing Fields, Liverpool, 9. Documents from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. each payable to City Treasurer. Tenders by Sept. 8.

**Llandudno, Caerns.**—Erection of a new golf clubhouse at Maesdu, for U.D.C. Documents from J. A. Edwards, engineer and surveyor, Town Hall, Llandudno. Tenders by September 1.

**Longendale, Ches.**—Exterior painting of the following, for U.D.C.: (a) 43 houses; and (b) the council offices, Mortuary, etc., all at Hollingworth. Documents from the Surveyor, Council Offices, Hollingworth, via Hyde, Ches. Tenders by September 1.

**Ludlow, Salop.**—General repairs, improvements, drainage and additions to 5 Mill Cottages at Selfton, for R.D.C. Documents from the Engineer and Surveyor, Stone House, Corve Street, Ludlow. Tenders by September 4.

**Lutterworth, Leics.**—Improvement at 27 houses situated in Jubilee Road, Broughton Astley, for R.D.C. Documents from A. F. Ashton, clerk of the Council, Council Offices, Lutterworth, Rugby. Tenders by Aug. 30.

**Manchester.**—Alterations and extensions to form Miles Platting Girls' Secondary School, for City Council. Documents from the City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by August 23.

**Middleton, Lancs.**—Three shops, one two-bedroom house and one two-bedroom flat—Pine Street, for B.C. Applications to the Borough Surveyor, Town Hall, Middleton. Deposit £2 2s. Tenders by September 1.

**Morecambe and Heysham, Lancs.**—Painting 258 houses (labour only); one or more contracts will be let, for B.C. Documents from C. E. Bottomey, town clerk, Council Offices, Morecambe and Heysham. Deposit £1 1s. payable to B.C. Tenders by August 30.

**Newmarket, Cambs.**—Improvement works, comprising alterations or additions to form bathrooms, installation of sanitary fittings with hot water systems and drainage works to 63 houses at Burwell as follows, for R.D.C.: 1-28 Martin Road; 14-25 The Avenue; 24-40, 44, 46, 50-58, 64-76 (even) Ness Road. Documents from the Engineer and Surveyor, Council Offices, Park Lane, Newmarket. Tenders by September 6.

**North Riding.**—Adaptations to Leeming Highways Depot for C.C. Applications to the County Architect, County Hall, Northallerton, by Aug. 25. Tenders by Sept. 26.

**North Riding.**—Protective treatment and painting of bridge steelwork in a depot at Thirsk, for C.C. Applications to the County Surveyor, County Hall, Northallerton. Tenders by September 25.

**Preston, Lancs.**—Construction of dutch barn and calf house (excluding the supply and erection of concrete-framed structure) at Hareden Farm, Dunlop Bridge, Yorkshire (W.R.), for Preston and District Water Board. Documents from J. F. Bailey, engineer and manager, Preston and District Water Board, Municipal Building, Preston. Tenders by August 28.

**Stone, Staffs.**—Painting of 16 houses, four flats and eight shops at Bowers, Standon,

**Slindon and Barlaston, for R.D.C.** Documents from the Surveyor, Rural Council Offices, Stone. Deposit £1 1s. cheque. Tenders by August 28.

**Tredegar, Mon.**—Repairs and improvements to the Slaughterhouse, Salisbury Street, for U.D.C. Documents from Gerald F. Fox, clerk of the Council, Bedwelly House, Tredegar. Tenders by August 29.

**West Suffolk.**—Erection of home for aged and accommodation for temporary homeless at Hospital Road, Bury St. Edmunds, for C.C. The work consists of a two-storey block in traditional construction, with total floor area of approximately 15,000 super. ft. and a single-storey block in similar construction, having a floor area of approximately 2,000 super. ft. Applications to the County Architect, 13 Westgate Street, Bury St. Edmunds, before August 25. Tenders by October 4.

**West Sussex.**—Erection of first-floor offices on the existing ground stores building, together with all site works less pit construction and drainage, at Portfield, Chichester, for River Board. Applications to the Engineer to the Board, County Hall, Chichester. Deposit £3 3s. Tenders by August 31.

**Wick, Caithness.**—Mason, carpenter, joiner and glazier, slater, plumber and drainage and plasterwork in connection with reconstruction of Pulteneytown Academy to form a concert hall and community centre, for B.C. Documents from the offices of Jenkins and Marr, architects, 3 Bon-Accord Crescent, Aberdeen. Plans also seen at the office of the Burgh Surveyor, Wick. Tenders by August 25.

**Worcester.**—Exterior repair and redecorations of Bredon and Abberley Block, Hillborough, for City Council. Documents from City Engineer and Surveyor, 22 Bridge Street, Worcester. Deposit £2 2s., cheques payable to Corporation. Tenders by September 11.

**Wycombe, Bucks.**—Following works for R.D.C.: (a) Stripping and re-tiling roofs of 18 houses at Princes Risborough and Water End; (b) replacing the metal casement windows of 12 houses at Butlers Cross. Documents from the Housing Manager, 28 High Street, High Wycombe. Tenders by Aug. 25.

**York.**—Erection of a new sports pavilion at Clifton Hospital, York, for Leeds Regional Hospital Board. Applications to the Architect to the Board, Park Parade, Harrogate, by noon, August 25. Deposit £2 2s., cheques payable to the Board. Plans also seen at the offices of Ferrey and Mennim, chartered architects, 12 Minster Yard, York. Tenders by September 15.

#### CLOTHING AND TEXTILES

**Lanarkshire.**—Supply of the undermentioned articles of uniform clothing for members of the Lanarkshire Constabulary, for C.C. Male officers' caps, jackets, trousers, raincoats, shirts (white and R.A.F. blue), collars, ties (black), gloves (brown kid for officers); female officers' caps, jackets, skirts, raincoats, shirts (white and R.A.F. blue), collars, ties (black), stockings (black nylon), gloves (brown kid for officers). Applications to the Chief Constable of the County, County Police Headquarters, Beckford Street, Hamilton. Tenders by September 4.

**Mansfield, Notts.**—Supply of uniforms and protective clothing to the several departments, for B.C. Applications to the Town Clerk, Carr Bank, Mansfield. Tenders by Sept. 2.

**Monmouthshire.**—Supply of uniform clothing for ambulance drivers employed by C.C. Uniform will be required for approximately 100 drivers. Documents from Vernon Lawrence, clerk of the Council, County Hall, Newport, Mon. Tenders by August 31.

#### DEMOLITION

**Durham.**—Demolition of slow sand filter 5 and clearance of the site at Waskerley reservoir, for County Water Board. Arrangements to view may be made on application to the Reservoir Bailiff, Waskerley Reservoir. Documents from A. C. Wildsmith, chief engineer, Neville Court, Durham. Tenders by August 28.

**Harrow, Middx.**—Demolition of underground air-raid shelters, for B.C. Deposit £2. Tenders by August 29.

**Hemel Hempstead, Herts.**—Demolition of waterworks building, for B.C. Tenders by August 24.

**Hereford.**—Demolition of 27 to 55, 67 to 71, 75 and 77, Belmont Road, for City Council. Documents from the City Architect, Town Hall, Hereford. Deposit £1 1s. Tenders by September 1.

**Hereford.**—Demolition of outbuilding at Drybridge, St. Martin's Street, for City Council. Documents from the City Architect, Town Hall, Hereford. Deposit £1 1s. Tenders by September 1.

**Inverness.**—Demolition of properties 1, 2 and 3 Railway Terrace and 6 and 7 Victoria

Square, for B.C. Documents from the Burgh Surveyor, Town House, Inverness. Tenders by August 26.

**Kidderminster, Warks.**—Dismantling and disposal of the steel-framed roofing and general site clearance at the old cattle market New Road, for B.C. Documents from the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster. Tenders by August 31.

**Penge, Kent.**—Demolition of seven houses in Woodbine Grove, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Anerley Road, S.E.20. Deposit £2. Tenders by August 23.

**West Riding.**—Demolition and site clearance of the former county works buildings at Northgate Lodge, Pontefract, for C.C. Applications to the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield. Tenders by September 4.

**Yeovil, Som.**—Demolition of a number of dwelling houses in Park Street and Larkhill Road, for B.C. Applications giving the names of authorities for whom they have carried out similar work to A. Heal, borough surveyor, Municipal Offices, Yeovil, by August 21.

#### ELECTRICAL

**Antrim.**—Following for Co. E.C.: (a) Electrical installation; and (b) heating and plumbing installations at Derryaghly New Primary School. Documents from J. Waring, consulting engineer, 31 High Street, Carrickfergus. Deposit £5 each. Tenders by August 23.

**Brierley Hill, Staffs.**—Installation of electrical services at Civic Buildings—phase three, Assembly Hall, for U.D.C. Tenders are invited for the installation of electrical services to the above building now in course of erection. The work will be carried out as a sub-contract under the terms of the general contract based on the R.I.B.A. articles of agreement. Applications with details of similar installations carried out to J. R. Moore, architect and housing director, Civic Buildings, Brierley Hill, by August 19.

**Enniskillen, Fermanagh.**—Following: (a) Electrical; (b) internal plumbing installation; (c) low pressure hot water installation, in connection with the erection of an extension to St. Michael's Grammar School, Enniskillen, for His Lordship, Most Rev. Eugene O'Callaghan. Documents from Colum P. McNally, consulting engineer, 143 Royal Avenue, Belfast. Deposit £3 3s. Tenders by August 31.

**Hull.**—Electrical installation to (a) 219 dwellings, Boothferry estate; (b) 63 dwellings on miscellaneous sites, for City Council. Documents from City Architect, Guildhall, Hull. Deposit £2, payable to City Treasurer. Tenders by August 23.

**Lancashire.**—Electrical installation at Leigh Bedford Methodist School, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by August 21.

**Manchester.**—Electrical installation to workshop and foundry extensions at Openshaw College of Further Education, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by August 28.

**Rochdale, Lancs.**—Rewiring of the electrical lighting and power installation at Oakenrod Primary School, for B.C. Documents from Borough Surveyor, Town Hall, Rochdale. Tenders by September 4.

**Watford, Herts.**—Central Library extension—electrical work, for B.C., including stripping existing wiring, re-running conduits and supplying and fixing all new distribution boards, fuse boards, etc., with lighting and power fittings. Applications to F. C. Sage, borough engineer and surveyor, Town Hall, Watford, by 2 p.m., August 25.

#### FENCING

**Heywood, Lancs.**—Erection of wrought-iron railings, for B.C. Deposit £1 1s. Tenders by September 9.

**Surrey.**—Fencing at Fishponds estate, for B.C. Tenders by September 5.

#### GAS AND WATER SUPPLY

**Dorset.**—Water mains—Blandford Bridge to Charlton Marshall and Charlton to Thorncombe, for Poole and East Dorset Water Board, involving excavating, backfilling and laying approximately 2,900 lin. yd. 6in. 1,050 lin. yd. 4in. and 2,250 lin. yd. of 3in. spun iron or asbestos pipes, with valves, fittings, and other appurtenant works. All pipes and valves, etc., will be supplied by the Board. The sites are just to the south of Blandford Forum, Dorset. Documents from Richard S. Rendle, engineer and manager, 4 Commercial Road, Parkstone, Poole. Tenders by September 4.

**East Devon.**—Supply of duplicate electrically powered pumps, with auxiliary equipment, for the Colyford Booster Station, for Water Board. The pumps will be operated automatically, and

will be required to pump 1,200 gallons per hour against a total head of 44ft. Documents from the Chief Engineer to the Board, 46 New Street, Honiton, Devon. Tenders by August 28.

**Highworth, Wilts.**—Water main, Broad Hinton to Gadbourne, for R.D.C. Deposit £2 2s.

**Isle of Wight.**—Laying of approximately 4,600 lin. yd. of 4in. diameter cast-iron water main in the Roud area, for Water Board. Applications to the Engineer and Manager, Isle of Wight Water Board, St. Nicholas, 58 St. John's Road, Newport, I.W. Tenders by September 11.

**Manchester.**—Haweswater Aqueduct—Lunesdale and Greenbank Siphons—contract NDP/3, for Corporation Waterworks. Manufacture, supply and delivery and site welding of approximately 4,845 lin. yd. of 49in. o/diameter class C and 201 lin. yd. of 49in. o/diameter class D steel water pipes, specials, etc., with sleeve-welded joints, lined and sheathed with bitumen. Documents from the Secretary, Waterworks Offices, Town Hall, Manchester, 2. Tenders by September 4.

**Manchester.**—Contract D.P.2 at Dunham Park reservoir, for Corporation Waterworks. Tenders by October 2.

**North Kesteven, Lines.**—Laying of approximately 2,950 lin. yd. of 3in. diameter asbestos-cement water main at Coleby Low Fields, for R.D.C. Documents from J. Freeman, surveyor, Surveyor's Department, Flaxengate, Lincoln. Deposit £2 2s. Tenders by August 24.

**Taunton, Som.**—Priorswood Road—Durstour trunk main, for B.C. Deposit £2 2s. Tenders by September 20.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Broadstairs and St. Peter's, Kent.**—Dumpton Gap to Louisa Bay—cliff protection works—phase II, for U.D.C., including the construction of approximately 300 lin. yd. of mass concrete and blockwork cliff protection wall with a 25ft. wide berm at rear; 16 mass concrete buttresses; reinforced concrete beams; together with all incidental works. Documents from the Office of the Engineer and Surveyor, Pierremont Hall, High Street, Broadstairs. Deposit £2. Tenders by September 8.

#### HEATING AND VENTILATING

**Littlehampton, Sussex.**—Installation of hot water systems, back boilers, tiled surrounds, baths and basins to 65 Council houses, at Falkland estate, for U.D.C. Applications to the Engineer and Surveyor, Council Offices, Littlehampton. Deposit £1 1s. Tenders by September 22.

**Southend-on-Sea, Essex.**—Construction of cold rooms at two school kitchens, for B.C. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea. Tenders by September 6.

**Watford, Herts.**—Provision of hot water systems and alterations to 25 houses at Rendlesham Avenue, Radlett, for R.D.C. Documents from the Engineer and Surveyor's Department, 99 Langley Road, Watford. Tenders by Sept. 5.

#### HOUSING SCHEMES

**Brownhills, Staffs.**—Seventeen dwellings at Field Lane, High Heath, Pelsall, and three dwellings at Chester Road, Shire Oak, for U.D.C. Documents from Charles H. Hunt, engineer and surveyor, Coombe House, Brownhills. Deposit £2 2s. Tenders by September 4.

**Coleraine, Londonderry.**—Following houses etc. (in one or more contracts) at Millburn housing site extension, for B.C.: (a) 35 houses, four corner flats and 12 garages; (b) 24 old people's bungalows, and (c) 79 houses, 10 corner flats and 23 garages. Documents from Crofton Dalzell, architect, Northern Bank Building, Coleraine. Deposit £10 10s. Tenders by August 23.

**Cosford, Suffolks.**—Following, for R.D.C.: (a) A terrace of three one-bedroomed bungalows at The Causeway, Hitcham; (b) a terrace of four one-bedroomed bungalows at Rockalls Road, Polstead. Applications to F. H. Saunders, architect, 9 Palmer's Avenue, Grays, Essex. Deposit £2 2s. each. Tenders by September 20.

**Deerne, Yorks.**—Aged persons' retreats at Goldthorpe and Thurnscoe, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Bolton-on-Deerne. Deposit £2 2s. Tenders by August 25.

**Dunbartonshire.**—Village 3 (housing) development in Cumbernauld Village for C.C., including 14 two-storey split level (four-apartment) terrace houses; 12 flats in one four-storey block (three-apartment), with eight lock-up garages at ground floor; four lock-up garages in one block; one transformer station, together with pavings, drainage, and site works. Applications to the Chief Architect and Planning Officer, Cumbernauld Development Corporation, Cumbernauld House,

## THE CONTRACT JOURNAL

Cumbernauld, Glasgow, by Aug. 23. It is anticipated that the contract will be required to commence in early Dec.

**East Kesteven, Lincs.**—Five traditional bungalows at The Square, South Rauceby, for R.D.C. Documents from the Architect, Council Offices, Northgate, Sleaford. Tenders by August 30.

**Enfield, Middx.**—Flats, houses and garages, for B.C. Apply by August 22. Deposit £2 2s. Tenders by September 18.

**Great Yarmouth, Norfolk.**—Following for B.C.: (a) Alteration and conversion of 56 two-storey aged persons flats, Grenville Place, Great Yarmouth; (b) erection of three aged persons' bungalows, Maygrove, Great Yarmouth; (c) erection of three garages, Byron Road, Great Yarmouth. Documents from the Borough Engineer's Office, Town Hall, Great Yarmouth. Tenders by September 8.

**Hastings, Sussex.**—Dwellings on the following sites, for B.C.: High Bank, 15 dwellings in one- and two-storey construction; Gurth Road, six aged persons' bungalows; Rectory site, four aged persons' bungalows; Belmont Road, four two-storey flats. Applications to the Borough Surveyor, 37 Wellington Square, Hastings. Deposit £2 2s., payable to Corporation. Tenders by September 11.

**King's Lynn, Norfolk.**—One-hundred and fifty-two maisonettes and flats in four-storey blocks at the following, for B.C.: (a) 32 dwellings, Sadler's Close, North Lynn; (b) 120 dwellings, St. Edmundsbury Road, North Lynn. Documents from the offices of the Borough Housing Architect, Clifton House, Queen Street, King's Lynn. Deposit £2 2s. Tenders by September 7.

**Liverpool.**—One-hundred and seventy-six flats in 22-storey block, Harding Street, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool. Deposit £2 2s., payable to City Treasurer. Tenders by September 6.

**Lymington, Hants.**—One block of 25 flatlets and warden's flat and one block of 16 self-contained flats at Barfields Court, for B.C. Documents from A. L. Slater, town clerk, Town Hall, Lymington. Deposit £2 2s. Tenders by September 12.

**Morecambe and Heysham, Lancs.**—Eight one-bedroomed flats in four blocks of two at Branksome Drive estate, for B.C. Documents from the office of the Borough Engineer and Surveyor, Council Offices, Morecambe and Heysham. Deposit £2. Tenders by September 6.

**Neath, Glam.**—Sixteen flats, with site preparation works, at Francis Street site, off Bethlehem Road, Skewen, for R.D.C. Documents from the office of the Engineer and Surveyor, 18 Orchard Street, Neath. Deposit £2 2s. Tenders by Sept. 5.

**Newmarket, Suffolk.**—Four houses and six flats, Mill Lane, Exning for U.D.C., including the whole of the site preparation, pavings, drainage and services. Applications to P. D. Lees, architect, Council Offices, Severals House, Newmarket. Deposit £2 2s. Tenders by Sept. 8.

**Newry, Down.**—Eighteen houses at Castle Hill, Rathfriland, and 36 houses at John Street, Rathfriland, for R.D.C. Documents from W. B. O'Donoghue, clerk of the Council, Rural District Council Offices, Daisy Hill, Newry. Deposit £10 10s. Tenders by Aug. 23.

**Penistone, Yorks.**—Four pairs semi-detached stone-fronted bungalows at Ingbirchworth for R.D.C. Documents from Noel Heppenstall, architect, 135 Armitage Road, Milnsbridge, Huddersfield, by Aug. 23. Deposit £2 2s., cheques payable to R.D.C. Tenders by Sept. 7.

**Sale, Ches.**—Contract 2/1961—Roebuck Lane—and Hollins Grove development, for B.C., including the following: (a) Two two-storey blocks totalling 32 aged persons' flatlets and including warden and communal accommodation, two two-storey blocks totalling 16 flats, also ancillary and minor road works, (b) one two-storey block containing eight flats on a site approximately quarter-mile distance from (a). Documents from the Borough Engineer's Department, Town Hall, Sale. Deposit £2 2s. Tenders by September 5.

**Stirling.**—Coxithill/Torbex, proposed development No. 2 for B.C.; Approximately 200 traditional houses on site of approximately 15 acres, including the sewers and site service work. Applications to Charles W. Norman, town clerk, Municipal Buildings, Stirling, by Sept. 1.

**Sutton and Cheam, Surrey.**—Sixteen flats and eight flatlets for aged persons at St. Nicholas Rectory site, for B.C., in three blocks of two-storey construction. Applications to C. Needham, borough engineer and surveyor, Municipal Offices, Sutton, by August 21. Deposit £2 2s., cheques payable to B.C. Tenders by October 2.

**Wells, Som.**—Two blocks of four houses, one pair of bungalows, one detached bungalow and incidental works, on the site of South

Close, Walton, for R.D.C. Documents from the office of the Engineer and Surveyor, Wookey Hole Road, Wells. Deposit £3 3s. Tenders by September 8.

**Worcester.**—156 dwellings at Warndon estate, for City Council. Deposit £3 3s. Tenders by September 18.

**Worcester.**—Ten dwellings, for City Council. Deposit £3 3s. Tenders by September 18.

**Worksop, Notts.**—Thirty houses in Valley Road estate, for B.C. Documents from the Borough Engineer, Park House, Worksop. Deposit £3 3s. Tenders by September 1.

## MATERIALS AND SUPPLIES

**Dundee.**—Supply and delivery, at Dundee Harbour, of motor spirit, gas oil and 200 secs. medium fuel oil; and at Craig Pier, Tay Ferries, of marine diesel fuel (distillate); all by road tank, for a period of 12 months, commencing Oct. 21, 1961. Documents from Alexander Smith, general manager and engineer, Dundee Harbour Trust, Harbour Chambers, Dock Street, Dundee. Tenders by Sept. 4.

**Flintshire.**—Supply and delivery of second quality earthenware pipes and fitting, for C.C. Documents from County Surveyor, Llwynegryn, Mold. Tenders by August 28.

**Hebburn, Durham.**—Installation of lavatory basins and alterations to heating and water supply systems to existing houses. Supply of the following material required for the above alterations, for U.D.C.: Thirty-two 30in. by 15in. copper cylinders; 134 pairs (approximately) 1in. C.P. pillar taps; 32 galvanised water storage tanks 24in. by 17in. by 17in.—16 gauge; 112 (approximately) 22in. by 16in. lavatory basins; 3,550 lin. ft. (approximately) 1in. by 19g copper tube; 2,100 lin. ft. (approximately) 3in. 19g copper tube; 650 lin. ft. (approximately) 1in. by 18g copper tube. Documents from the Offices of the engineer and surveyor, Council Offices, Argyle Street, Hebburn. Tenders by September 6.

**Manchester.**—Supply of electric lamps during the period November 1 1961, to December 31 1962, for City Council. Documents from the City Surveyor, Town Hall, Manchester 2. Tenders by August 24.

**Northampton.**—Supply of dustbins, for B.C. Tenders by September 4.

**Pontypridd, Glam.**—Supply of petrol and/or diesel oil to meet the Council's requirements during the year commencing Nov. 1, 1961, for U.D.C. While the exact quantities which will be required cannot be specified, as a guide to tenderers it can be stated that the requirements for the past 12 months have been as follows: Petrol, 23,000 gallons, diesel fuel oil, 120,000 gallons. Tenderers are asked to quote net prices per gallon delivered as required to the Transport Department, Treforest, and Mill Field Depot, Pontypridd. The source of origin and refining of the supplies tendered for must be stated and the guaranteed maximum sulphur content of diesel oil must not exceed 0.5 per cent. Further particulars can, if required, be obtained from the Council's Transport Manager, Transport Department, Treforest, Pontypridd. Tenders, in plain sealed envelope marked "Tender—fuel oil supplies," to Bernard M. Murphy, clerk of the Council, Municipal Buildings, Pontypridd, Glam., by noon, Sept. 4.

**Preston, Lancs.**—Eight shops, 13 maisonettes and branch library, Savick estate: Supply of the following in connection with the above contract for B.C.: (1) Paving to flat roofs and walkways; (2) balustrades; (3) garage doors; (4) fireplaces; (5) ironmongery; (6) pavement lights; (7) suspended ceiling in library; (8) electrical installation. Documents from the office of the Borough Engineer and Surveyor, Municipal Building, Preston. Deposit £3 3s. Tenders by September 7.

## PLANT AND MECHANICAL TRANSPORT

**Carshalton, Surrey.**—Supply and delivery of a diesel-engined mechanical sweeper-collector, for U.D.C. Tenderers will be required to indicate the part-exchange allowance they are prepared to offer for the machine now in use. Documents from the Engineer and Surveyor, Stone Court, The Grove, Carshalton. Tenders by September 4.

**Flint.**—Supply and delivery of a Karrier bantam dual tip refuse collection vehicle, for B.C. Documents from the Public Health Inspector, Municipal Offices, Earl Street, Flint. Tenders by August 28.

**Flintshire.**—Supply and delivery of the following, for C.C.: (1) Mechanical road sweeper; (2) petrol/diesel trucks, 30cwt. and 15cwt.; (3) 7/10cwt. petrol van; (4) Land-Rover or similar vehicle; (5) tractors, diesel (wheeled); (6) attachments for tractors, viz. (a) forward loading shovels, (b) graders, (c) mowing machine; (7) calldozer; (8) diesel roller, 8-ton; (9) snowploughs; (10) trailer gritting machines; (11) tar boilers; (12) compressor tools; (13) automatic traffic signals (portable); (14) toolbox trailers; (15) steel

road forms; (16) 500-gallon diesel storage tanks with pumps. Documents from the County Surveyor, Llwynegryn, Mold. Tenders by September 18.

**Heywood, Lancs.**—Supply and delivery of a diesel-engined tipping wagon, 5 cu. yd. capacity (struck load), for B.C. The wagon must be fitted with twin ram or other approved tipping gear, heavy duty tyres, and painted, lettered, etc., to requirements. Allowance must be made for the existing Leyland Comet wagon in part exchange. Documents from W. H. Jewell, manager, Sewage and Destructor Works, Peel Lane, Heywood. Tenders by August 31.

**Huddersfield, Yorks.**—Supply of two dual tip refuse collection vehicles (18 cu. yd.) for B.C., fitted with diesel engines and two 4½ cu. yd. low-loading salvage trailers, and the taking in part exchange of two Karrier C.K.3 refuse collection vehicles (11 cu. yd. capacity, side loading), which may be inspected by arrangement with the Cleansing and Haulage Superintendent, Vine Street Garage, Leeds Road, Huddersfield. Tenders, in envelopes endorsed "Tender for refuse vehicles," to Harry Bann, town clerk, Town Hall, Huddersfield, by Sept. 11.

## PLAYING FIELDS, PARKS, ETC.

**Bournemouth, Hants.**—Two new hard all-weather tennis courts at Stourfield Secondary School, Beaufort Road, for B.C. Documents from the Borough Architect's office (room 106), Town Hall, Bournemouth. Deposit £2 2s. Tenders by September 11.

**Bradford, Yorks.**—Renovation of approximately 8½ acres of pasture land situated in Mandale Road, Buttershaw, for the purpose of playing fields, for the City Council. This work consists of cleaning, ploughing, discing, and levelling the site to a natural contour and prepare the surface and sowing with a good grass seed mixture. Documents from the Parks Superintendent, 2/2A Howard Street, Bradford, 5. Tenders by August 30.

**Bradford, Yorks.**—Draining of Bingley Road (East) Recreation Ground, containing an approximate area of 5 acres, for City Council. This work consists of sports field drainage to a reasonable level surface. Documents from the Parks Superintendent, 2/2A Howard Street, Bradford, 5. Tenders by August 30.

**Godstone, Surrey.**—Reseeding at Mill Lane Playing Field, for R.D.C. Tenders by August 23.

**Staffordshire.**—Supply of good quality pasture land turf for C.C. during the period Sept. 18, 1961, to April 14, 1962, delivered to sites within the county of Staffordshire. Documents from the Director of Education (P.F.), County Education Office, Earl Street, Stafford. Tenders by Aug. 26.

**Wembley, Middx.**—Reinstatement of temporary bungalow site—Roe Green Park, for B.C., comprising the demolition of a trench-type air raid shelter and the clearance and cultivation of approximately 2½ acres of open space. Documents from the Borough Engineer and Surveyor, Town Hall, Wembley. Tenders by August 25.

## RIVER AND FLOOD PREVENTION WORKS

**Cheshire.**—Rivers Birket and Fender improvement scheme, Wirral, for River Board. Execution of following works on the Moreton-Greasby section of the scheme: Widening of existing reinforced concrete flume and replacement of accommodation bridge at Moreton, Wallasey; suspended sewer crossing at Saughall Massie, Birkenhead; reinforced concrete box culvert and flume at Upton, Birkenhead. Applications to the Engineer to the Board, 54 Hough Green, Chester. Deposit £3 3s. Tenders by September 7.

**Devon.**—River Exe improvement scheme, Tiverton, Part I, for River Board. Deposit £5 5s. Tenders by September 11.

**East Riding.**—Construction of bank protection works on the north bank of the River Humber near Brough, for Hull and East Yorkshire River Board. The works include a longitudinal half-tide training wall and a gabion wall and platform, requiring some 150,000 tons of chalk and 28,000 tons of slag. Documents from W. F. Gilbert, engineer and clerk, 37 North Bar Within, Beverley, E. Yorkshire. Deposit £2. Tenders by September 11.

## ROADS, BRIDGES AND SITE WORKS

**Alfreton, Derby.**—Heating and planing of carriageways, for U.D.C. Tenders by August 26.

**Alsager, Ches.**—Pikemere Road reconstruction, for U.D.C. Deposit £3 3s. Tenders by September 9.

**Bacup, Lancs.**—Laying of approximately 1,000 sq. yd. rolled single course and two course patching hot rolled asphalt on Newchurch Road, A.681, for B.C. Documents from the Borough Engineer, Stubbslee Hall, Bacup. Tenders by August 21.

**Barnoldswick, Lancs.**—Asphalt surfacing for U.D.C. Tenders by September 2.

**Basingstoke, Hants.**—Hounds Mills industrial estate (phase II); Construction of roads and sewers for B.C., including the construction of approximately 5,000 sq. yd. of 8in. lean-mix concrete carriageway with bituminous macadam surfacing, together with 1,100 lin. yd. of precast concrete kerbing; the laying of 500 lin. yd. of 6in. to 12in. diameter surface water sewers and the laying of 260 lin. yd. of 6in. foul water sewers. Documents from the Borough Surveyor, Municipal Buildings, Basingstoke. Deposit £2 2s. Tenders by Sept. 1.

**Batley, Yorks.**—Construction of Clifton Road (67 lin. yd. approximately) and Laithes Croft Road (167 lin. yd. approximately), for B.C. The work includes excavation, sewerage, levelling, paving, tarmacadam surfacing, flagging, kerbing, etc., and making good the above roads. Applications to the Borough Engineer, Hanover Street, Batley. Tenders by September 4.

**Birmingham.**—Laying bituminous macadam for City Council. Deposit £2 2s. Tenders by August 30.

**Birmingham.**—Construction of roads, Welsh House Farm estate, for City Council. Deposit £2 2s. Tenders by August 30.

**Birmingham.**—Reconstruction of Genners Lane (part), Bartley Green, between Jiggins Lane and Cromwell Lane, for City Council. Documents from the office of Sir Herbert J. Manzoni, city engineer and surveyor, Baskerville House, Civic Centre, Birmingham, 1. Deposit £2 2s. Tenders by Aug. 30.

**Bognor Regis, Sussex.**—Road and sewer works at South Bersted housing site, for U.D.C. Deposit £2 2s. Tenders by September 4.

**Bognor Regis, Sussex.**—Making up of Madeira Avenue (approximately 225yd. in length), Highcroft Avenue (approximately 146yd. in length), and Westway (approximately 151yd. in length), for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Bognor Regis. Deposit £2 2s. Tenders by August 28.

**Bognor Regis, Sussex.**—Making up part of Wick Lane (75yd.), for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Bognor Regis. Deposit £2 2s. Tenders by August 28.

**Braintree and Bocking, Essex.**—Road improvements to Thistley Green Road, for U.D.C. Deposit £2 2s. Tenders by September 15.

**Brentwood, Essex.**—Making up of Park Avenue, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Brentwood. Deposit £1 1s. Tenders by September 4.

**Brierley Hill, Staffs.**—Bromley Lane improvement, for U.D.C., comprising approximately 2,740 lin. yd. of concrete kerbing 4,500 lin. yd. of concrete edging, and 12,000 sq. yd. of machine laid two course hot rolled asphalt, together with other ancillary works. Documents from the Office of the Engineer and Surveyor, Civic Buildings, Brierley Hill. Deposit £3 3s. Tenders by August 30.

**Brierley Hill, Staffs.**—Kingswinford scheme four—final surfacing, layout of verges, etc., and Ketley Road improvement, for U.D.C., comprising approximately 3,000 cu. yd. of excavation, 2,000 lin. yd. kerbing, 7,300 sq. yd. carriageway surfacing, 5,100 sq. yd. footpath surfacing, 4,500 sq. yd. of soilings, 80 lin. yd. 9in. diameter, surface water sewer, 1,280 sq. yd. road construction, and other incidental works. Documents from the Office of the Engineer and Surveyor, Civic Buildings, Brierley Hill. Deposit £3 3s. Tenders by August 30.

**Buckinghamshire.**—Roadworks, etc., at Chicheley village, for C.C. Deposit £2. Tenders by September 4.

**Buckinghamshire.**—Making up of Croft Road, Chalfont St. Peter, for C.C. Deposit £2. Tenders by September 4.

**Bushey, Herts.**—Making-up Chestnut Rise for U.D.C. Deposit £2 2s. Tenders by September 14.

**Canterbury, Kent.**—Laying of approximately 1,900 sq. yd. of various types of paving, at the Union Street/New Ruttington Lane housing site, for City Council. Documents from the City Engineer, Municipal Buildings, Dane John, Canterbury. Tenders by September 16.

**Chatham, Kent.**—Resurfacing of Luton Road and Maidstone Road (part), for B.C., comprising the mechanical laying of fine cold asphalt, 2in. thick to approximately 10,900 sq. yd., in Luton Road and 8,200 sq. yd. in Maidstone Road. Documents from the office of J. A. T. Richards, borough engineer and surveyor, Town Hall, Chatham. Deposit £2 2s. Tenders by September 4.

**Chester.**—Construction of roadworks and drainage at new housing estate, Poulton Lane, Poulton, for R.D.C. Documents from the office of T. C. R. Eaton, architect, 16 White Friars, Chester. Deposit £3 3s., cheque payable to R.D.C. Tenders by September 19.

**Coulson and Purley, Surrey.**—Private street improvement works, for U.D.C.: (a)

Elton Road, Purley; (b) Elmfield Way (part of), Sanderstead; (c) footpath (part of), Westfield Avenue to Mitchley Avenue, Sanderstead. Documents from H. M. Collins, engineer and surveyor, Council Offices, Purley. Deposit £3 3s. each tender. Tenders by August 31.

**Coventry.**—Widening and reconstruction of Ansty Road, between the junction with Clifford Bridge Road and Woodway Lane, for City Council. The work includes approximately 5,000 sq. yd. lean-mix concrete base, 7,500 sq. yd. bituminous surfacing, 360 lin. yd. of S.W. sewer up to 30in. diameter, demolition of existing bridge over River Sowe with reconstruction using steel beams and reinforced concrete (skew span 42ft.), kerbing, footways, and all ancillary work. Documents from the City Engineer, Council House, Coventry. Deposit £5. Tenders by August 28.

**Cranbrook, Kent.**—Following for R.D.C.: (i) The construction of a parking area and waiting bay at Downton Cottages, Sandhurst; (ii) construction of parking area, and repairs to road at Basden Cottages, Hawkhurst; and (iii) repairs to footpaths at Wellington Cottages, Hawkhurst. Documents from the Surveyor, Council Offices, Hill House, Cranbrook. Tenders by Sept. 8.

**Doncaster, Yorks.**—Reconstruction of Askern Lake bridge, contract 387, for R.D.C. Tenders by Aug. 30.

**Dorking, Surrey.**—Following works for U.D.C.: (a) St. John's Road improvement—100 lin. yd. of widening and ancillary works; (b) Bailey Road surface water sewer—240 lin. yd. of 12in. concrete pipes. Documents from the Engineer and Surveyor, Council Offices, Pippbrook, Dorking. Tenders by Sept. 4.

**Droylsdon, Lancs.**—Class I and district road works, for U.D.C. Tenders by August 26.

**Edinburgh.**—Redford Road realignment (contract 2) for City Council, including earthworks, roadway and footpath construction and surfacing, drainage, soiling, sowing, planting and fencing. Documents from the City Engineer, Council Offices, 329 High Street, Edinburgh. Tenders by Sept. 1.

**Edinburgh.**—Roadworks at the Redbrae housing area, for City Council, comprising the surfacing of approximately 1,070 sq. yd. of carriageway in bitumen macadam and asphalt and the construction of 270 sq. yd. of footway including 288 lin. yd. of punched whin kerb. Documents from the City Engineer's Department, 329 High Street. Tenders by August 28.

**Edmonton, Middx.**—Resurfacing of Silver Street (A.406) carriageway, Gloucester Road to Sweet Briar Walk for B.C., including the burning-off of 1in. of existing surfacing and resurfacing with 1in. of thick hot-rolled asphalt wearing course (approximate area 3,000 sq. yd.), together with the reconstruction of a pedestrian crossing. Documents from the Borough Engineer and Surveyor, Town Hall, Edmonton. Deposit £2 2s. Tenders by Sept. 4.

**Esher, Surrey.**—Footpath reconstruction scheme, stage II, 1961-62, contract 324, for U.D.C., which comprises the following: (1) Reconstruction of various footpaths in Hinchley Wood, involving replacing approximately 2,600 sq. yd. of concrete block paving with 2in. coated macadam; taking-up approximately 2,500 sq. yd. Southwater brick paving; and re-laying on 3in. concrete base. (2) Construction of 6ft. wide footpath at Stevens Lane, Claygate, involving approximately 900 sq. yd. hoggan footpath, 175 lin. yd. of 9in. diameter surface water sewer, and various ancillary works. Documents from the Engineer and Surveyor, Civic Buildings, Brierley Hill. Deposit £1 1s. Tenders by Sept. 1.

**Farnham, Surrey.**—Improvement works as follows, for U.D.C.: (1) Weybourne Road (B.3007)—construction of concrete bus bay; (2) Upper Weybourne Lane (CX.121)—the works comprise the widening of the existing carriageway to 22ft., and the construction of footpaths, the approximately quantities being: (a) 2,000 cu. yd. excavation; (b) 2,500 super. yd. carriageway construction; (c) 1,800 super. yd. footpath construction; (d) 900 lin. yd. concrete kerb and sett channels; (e) ancillary works. Documents from Geoffrey Poole, engineer and surveyor, Council Offices, South Street, Farnham. Deposit £2 2s. each site. Tenders by August 21.

**Faversham, Kent.**—Laying garage bases and forecourts, for B.C. Tenders by September 11.

**Friern Barnet, Herts.**—Following for U.D.C.: construction of estate development road, including 135yd. of reinforced concrete carriageway, together with kerbs and surface water drains, at Coppets Road, N.10; reconstruction of junction of Friern Barnet Lane, B.550 Torrington Park, including realignment of carriageway, kerbing, lean-

mix concrete foundation with hot rolled asphalt surfacing, and ancillary works. Documents from the office of the Engineer and Surveyor, Town Hall, Friern Barnet, N.11. Tenders by Sept. 4.

**Frinton and Walton, Essex.**—Construction of garage crossings, for U.D.C. Deposit £2 2s. Tenders by September 11.

**Gloucestershire.**—Improvement of Barrington bents on A.40, for C.C. Tenders by September 7.

**Hampshire.**—Widening trunk road, A.33—Otterburn Hill, Winchester, from Kiln Lane to the Cricketers' Arms, approximately 670 yd. to provide a 30ft. carriageway, for C.C. The works include excavation, filling, surface water drainage, carriageway construction in gravel, lean concrete (or dry stone) and bitumen macadam, kerbing, and ancillary works. Applications to H. N. Jenner, county surveyor, The Castle, Winchester, by noon, August 24.

**Harrow, Middx.**—Improvement to bridge approaches—phase II—Cuckoo Hill, Pinner, for B.C. Deposit £2. Tenders by August 29.

**Harrow, Middx.**—Dense tar surfacing—car park, for B.C. Deposit £2. Tenders by August 29.

**Harrow, Middx.**—Resurfacing Whitchurch Lane (Buckingham Road to Montgomery Road) for B.C., including burning-off and resurfacing of approximately 7,000 sq. yd. of carriageway with hot rolled asphalt, re-laying of approximately 600 lin. yd. granite kerb, reconstruction in bitumen macadam of footways, partial reconstruction of carriageway foundation, footway, drainage and other ancillary works. Documents from the Borough Engineer, Council Offices, 48 Uxbridge Road, Stanmore. Deposit £2 2s. (cheque payable to Corporation). Tenders by Aug. 29.

**Harrow, Middx.**—Resurfacing Taunton Way for B.C., including re-laying approximately 1,000 lin. yd. of granite kerb, partial reconstruction of carriageway foundation, the stripping of existing surfacing and resurfacing with hot rolled asphalt of approximately 5,450 sq. yd. of carriageway, and ancillary works. Applications to the Borough Engineer, Council Offices, 48 Uxbridge Road, Stanmore. Deposit £2 (cheque payable to Corporation). Tenders by Aug. 29.

**Hatfield, Herts.**—Surfacing Dellsome Lane estate, for R.D.C. Deposit £2 2s. Tenders by September 8.

**Heanor, Derby.**—Widening and improving Furnace Lane, Loscoe, length 104yd., for U.D.C. Documents from J. H. Garside, engineer and surveyor, Council Offices, Ilkeston Road, Heanor. Deposit £3 3s. Tenders by August 25.

**Herefordshire.**—Tarmacadam road repairs at Burghill Hospital, for Management Committee. Documents from the Superintendent Engineer at the hospital. Tenders by September 12.

**Hertfordshire.**—A.414, Stanstead Abbotts-Sawbridgeworth Road, construction of Eastwick diversion, for C.C. The works consist of a construction of a length of 600yd. of new road in a diversion of A.414 at Eastwick and an adjoining length of 400yd. of carriageway widening comprising earthworks, lean mix concrete foundations, asphalt surfacing, culverts and ancillary works. Documents from the office of the County Surveyor, County Hall, Hertford. Tenders by September 6.

**Heston and Isleworth, Middx.**—Resurfacing in hot rolled asphalt, for B.C. Deposit £2 2s. Tenders by September 5.

**Hinckley, Leics.**—Trunk road A.47—Shilton Hill diversion, for U.D.C. Deposit £2. Tenders by September 7.

**Hitchin, Herts.**—Reconstruction of approximately 400 lin. yd. of 24ft. wide carriageway at Old Hale Way, for U.D.C. The works include site clearance, excavation, filling, surface water drainage, reconstruction and resurfacing of the carriageway with hardcore, clinker and bitumen macadam, kerbing and channeling and the construction of footpaths and verges. Documents from Robert F. Earley and Partners, consulting engineers, 39 Victoria Street, London, S.W.1. Deposit £3 3s. Tenders by August 28.

**Hitchin, Herts.**—Extension to car park, "Woodside" Walsworth Road, for U.D.C. The work involves site excavation and clearance, the provision of a hardstanding of approximately 3,450 sq. yd. formed of 8in. hoggan, together with incidental drainage, and other minor appurtenant work. Documents from the Surveyor, Council Offices, Brand Street, Hitchin. Deposit £3 3s. Tenders by September 1.

**Hornchurch, Essex.**—Verge works, etc., for U.D.C. Deposit £2 2s. Tenders by August 25.

**Inverness-shire.**—Regrading of Kingussie High Street, carriageway and footways, including new kerbs and precast slab footways, approximately 1,000yd. long, for C.C. Documents from the County Surveyor, County

**Buildings, Inverness.** A site meeting will be held at 11 a.m., Aug. 21, starting at the Divisional Surveyor's Office, High Street, Kingussie. Tenders by Sept. 1.

**Inverness.**—Clearing and levelling of the site and the construction of an access road at the proposed housing site at Kinlochmore, near Kinlochleven, for C.C. Documents from the County Surveyor, County Buildings, Inverness. An engineer will meet intending offerors at Kinlochleven Bridge at 2 p.m., August 23. Tenders by August 31.

\***Ipswich, Suffolk.**—Completion of road works, for B.C. Deposit £2 2s. Tenders by September 8.

**Jarrow, Dur.**—Preparation for housing scheme, 105-111 dwellings, Hedworth estate, for B.C. Applications to the Borough Engineer, Town Hall, Jarrow, by August 26. Deposit £2 2s.

**Leicester.**—Narborough Road improvement for City Council, comprising works to extend the dual carriageway for approximately 200yd. by the construction of a 24ft. carriageway alongside the existing. Works include the following: (1) 1,000 sq. yd. of 9in. concrete with 3in. hot rolled asphalt surfacing; (2) 300 sq. yd. of wetmix, 1ft. thick, with 3in. dense tar surfacing; (3) footway, central reservation and drainage works. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 1s. Tenders by Aug. 21.

**Leyton, Essex.**—Construction of a bus lay-by in High Road for B.C., including the provision of a concrete bus lay-by and mass concrete retaining wall, with ancillary works. Documents from the Borough Engineer, Town Hall, Leyton. Deposit £2 2s. Tenders by Aug. 28.

**Lisburn, Antrim.**—Reconstruction of Bow Street (route [3]), for U.D.C. The works include the part renewal of the surface water drainage system, the excavation and reconstruction of the road foundations and the resurfacing of the street and two-course asphalt, together with the rekerbing and flagging of the footpaths. The length of the street is approximately 250 lin. yd. Documents from the office of the Town Surveyor, Town Hall, Castle Street, Lisburn. Deposit £3 3s. Tenders by August 24.

**Llandudno, Caernarvon.**—Making-up of Bryn View Road, Penrhyn Bay, for U.D.C. Documents from J. A. Edwards, engineer and surveyor, Town Hall, Llandudno. Tenders by August 22.

**London.**—Widening of Wandsworth Road, Lambeth, between Nine Elms railway bridge and Lansdowne Way, for C.C. Documents from the Chief Engineer, County Hall, Westminster Bridge, London, S.E.1. Deposit £5 (cheque). Tenders by Sept. 11.

**Lurgan, Armagh.**—Laying 17,000 sq. yd. of two-course asphalt, and ancillary works, at Avenue Road and Edward Street, for B.C. Documents from the Borough Surveyor, 6 Union Street, Lurgan. Tenders by September 2.

**Maidenhead, Berks.**—Construction of garage forecourts at Hillside, Larchfield estate for B.C., comprising excavation, hardcore foundation approximately 450 sq. yd., tarmacadam basecourse and bituminous macadam wearing course (approximately 700 sq. yd.), provision and laying of kerbs and channels, surface water drainage, construction of dwarf brick wall, together with all incidental works. Documents from the office of the Borough Engineer and Surveyor, 14 Craufurd Rise, Maidenhead. Deposit £2. Tenders by Aug. 28.

**Manchester.**—Construction of roads and drains at Gorton Cemetery for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by Aug. 28.

**Middlesex.**—Western Avenue, Ealing, junction with Hanger Lane, periodical cleaning of the underpass at the above junction for the period September, 1961, to March 31, 1962, for C.C. Documents from the County Engineer, Middlesex House, 20 Vauxhall Bridge Road, Westminster, S.W.1. Tenders by Aug. 22.

**Nelson, Lancs.**—Making-up of Back Rickard Road for B.C., comprising approximately 500 sq. yd. of concrete carriageway, together with precast concrete channelling, surface water drainage, and other ancillary works. Documents from the Borough Engineer and Surveyor, Town Hall, Nelson. Deposit £2 2s., cheques payable to Corporation. Tenders by Sept. 1.

**Neston, Ches.**—Making-up of Talbot Close, Little Neston, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Neston, on written application. Tenders by Aug. 31.

\***Orpington, Kent.**—Road and sewer works at Kevington estate, for U.D.C. Tenders by September 6.

**Portadown, Armagh.**—Laying of 4,850 sq. yd. two course hot rolled asphalt, for B.C. Documents from the Borough Engineer, Tavanagh

House, Portadown. Deposit £2 2s. Tenders by September 2.

**Portrush, Antrim.**—Construction of new slab paved footpaths and incidental works at Hopefield Avenue and Ballywillan Road, for U.D.C. Documents from the Town Surveyor, Dunluce Street, Portrush. Tenders by August 28.

\***Reading, Berks.**—Footways and verges, for B.C. Deposit £2 2s. Tenders by September 4.

**Reigate, Surrey.**—Gatton Park Road, A.242, road improvement, Carlton Road to Wray Lane, for B.C., including re-shaping 1,560 super. yd. of carriageway, laying 234 lin. yd. of kerb, and ancillary works. Documents from the Borough Surveyor, Town Hall, Reigate. Tenders by Sept. 2.

**Rowley Regis, Staffs.**—Construction at Porters Field industrial estate, Cradley Heath of 4,400 sq. yd. of carriageway, including surfacing, and of 900 lin. yd. of 9in. to 18in. diameter sewers, and all incidental works, for B.C. Documents from the office of the Borough Engineer and Surveyor, Municipal Buildings, Old Hill, Staffs. Deposit £2 2s. Tenders by Aug. 28.

\***Rugby, War.**—Resurfacing works, 1961-62, for B.C. Deposit £2 2s. Tenders by September 7.

**Rugby, War.**—Construction and surfacing in hot rolled asphalt of approximately 3,000 sq. yd. of footway in various roads in the Abbotts Farm area, together with precast concrete edging and laying-out of verges, and all incidental works, for B.C. Documents from the Borough Surveyor's Department, Town Hall, Rugby. Deposit £2 2s. Tenders by Sept. 5.

**South Cambridgeshire.**—Construction of road (approximately 3,800 sq. yd.) and incidental works, Babraham Road, Sawston, for R.D.C. Applications to the Architect and Surveyor, County Hall, Hobson Street, Cambridge. Deposit £2 2s., cheques payable to R.D.C. Tenders by Aug. 29.

**Southend-on-Sea, Essex.**—Resurfacing of playgrounds at five schools for B.C. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea. Tenders by Sept. 6.

\***Southgate.**—Reconstruction of Powys Lane, contract 1720, for B.C. Tenders by September 4.

\***Southgate.**—Reconstruction of Ponys Lane, contract 1719, for B.C. Tenders by September 4.

**Staffordshire.**—Making-up Thelma Avenue, Stoke-on-Trent, for C.C. Deposit £5. Tenders by September 6.

**Staines, Middx.**—Making-up of Park Avenue for U.D.C. The works comprise the following approximate quantities plus ancillary works: excavation, 480 cu. yd.; gravel asphalt carriageway with hardcore foundation, 1,360 sq. yd.; kerb and channel, 420 lin. yd.; artificial stone paving, 680 sq. yd. Documents from the office of the Engineer and Surveyor, 240 London Road, Staines. Deposit £2 2s. Tenders by Sept. 7.

\***Stirlingshire.**—Improvement at Bo'ness branch railway bridge, A.9, for C.C. Deposit £5. Tenders by September 4.

**Sunderland, Dur.**—Road and footpath works at (a) Hyton Road; (b) Queen Alexandra Road; and (c) Ewesley Road and Cleveland Road, for B.C. Comprising—(a) approximately 4,950 sq. yd. carriageway works; (b) approximately 4,365 sq. yd. carriageway works; (c) approximately 600 lin. yd. kerbing works and 2,600 super. yd. flagging works. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £2 2s., cheques payable to Sunderland Corporation. Tenders by Aug. 24.

**Surrey, Surbiton.**—Resurfacing of part of Kingston Road with hot rolled asphalt for B.C. Documents from R. Thirlway, borough engineer and surveyor, Council Offices, Ewell Road, Surbiton. Tenders by Aug. 21.

**Surry.**—Making-up Wharf Lane, Send, near Guildford, with tarmacadam surfacing to carriageway and footways, kerbing, etc. approximate length 300yd. for C.C. Documents from the office of the County Engineer, County Hall, Kingston-upon-Thames. Tenders by Aug. 26.

**Swansea.**—Layout of grounds at Portmead County Primary School, for B.C. The work includes excavation, filling, levelling, with drainage and other contingent works over an area of approximately 18,000 sq. yd. Documents from Norman Hopkins, consulting engineer, 78 Mansel Street, Swansea. Deposit £5 5s. Tenders by September 4.

\***Thornbury, Glos.**—Roadworks, for R.D.C. Apply by August 26. Deposit £3 3s.

**Thornton Cleveleys, Lancs.**—River Road improvement, Thornton, for U.D.C., including the kerbing, channelling and surfacing (from existing carriageway to river embankment). Applications to J. E. Porter, engineer and surveyor, Council Offices, Thornton Cleveleys, Blackpool. Deposit £2 2s. Tenders by September 12.

**Tipton, Staffs.**—Following contracts for B.C.: (1) Aston Street housing site, contract 2, completion of roadworks, 650 sq. yd. asphalt surfacing, 240 sq. yd. flag paving, and 1,820 sq. yd. turfing and ancillary works; (2) Woodcroft estate, reconstruction of roads, 5,300 sq. yd. breaking concrete slabs and reconstructing in pitching with dense bitumen macadam surfacing, 2,200 sq. yd. bitmac footways. Documents from J. Butler, borough engineer and surveyor, Municipal Buildings, Sedgley Road West, Tipton. Deposit £2 2s. each (cheques payable to Corporation). Tenders by Sept. 6.

\***Twickenham, Middx.**—Reconstruction of Strawberry Vale and Twickenham Road, for B.C. Deposit £2 2s. Tenders by September 11.

**Walton and Weybridge, Surrey.**—Making-up of (a) Cottimore Crescent; and (b) Cottimore Lane for U.D.C. The work comprises: (a) The surfacing of approximately 2,450 sq. yd. of existing hardcore carriageways, the construction of footways with bitumen macadam, laying of blue brick channels, together with other incidental works; and (b) the laying of approximately 660 sq. yd. of hardcore and bitumen surfacing, the construction of bitumen macadam footways, laying of kerb and blue brick channels, and approximately 100 lin. yd. of 9in. surface water sewer. Documents from the office of the Engineer and Surveyor, Council Offices, Walton-on-Thames. Tenders by Sept. 5.

**Wanstead and Woodford, Essex.**—Confronting Taskers Cottages in the parish or South Kirkby in the Rural District of Hemsworth, for C.C. Documents from the County Engineer and Surveyor, County Hall, Wakefield. Deposit £1. Cheques, etc., crossed and payable to the West Riding Treasurer. Tenders by August 21.

\***Warwickshire.**—Highway improvement, for C.C. Deposit £2 2s. Tenders by August 28.

**Weston-super-Mare, Som.**—Construction of garage site at Oldmixon estate for B.C., consisting of concrete garage bases, reinforced concrete forecourt, together with ancillary works. Applications to the Property Manager, Town Hall, Weston-super-Mare. Tenders by Aug. 31.

**West Riding.**—Construction and making-up of a total length of 56yd. of the private street struct approximately 400 sq. yd. of tarmacadam hardstanding on hardcore or lean-mix concrete base, 260 sq. yd. of 6in. reinforced concrete garage bases, drainage and appurtenant works at Old Mill Court for B.C. Documents from the Borough Engineer, Municipal Offices, Woodford, E.18. Deposit £2. Tenders by Aug. 24.

**West Riding.**—Formation of new drill yard at Cleckheaton fire station, for C.C. Applications to the office of the Divisional Architect, Flint Street, Huddersfield. Tenders by August 28.

**Whitworth, Lancs.**—Making-up of Lloyd Street for U.D.C. The work includes altering levels of approximately 200yd. of carriageway and footways, tarmacadam surfacing and concrete flagging. Documents from the Surveyor, Council Offices, Whitworth. Tenders by Aug. 28.

**Widnes, Lancs.**—Oxford Street improvement (contract 406) for E.C., comprising 1,020 sq. yd. concrete flagging, 390 lin. yd. concrete kerbs and channels, regulate 1,390 sq. yd. existing carriageway, lay bitumen macadam wearing course and construct school access road approximately 260 sq. yd. Documents from the Borough Engineer, Town Hall, Widnes. Deposit £2 2s. Tenders by Aug. 30.

**Woking, Surrey.**—Making-up of Thornash Road and Thornash Close, Horsell, for U.D.C., comprising approximately 250 lin. yd. kerbing, 1,500 sq. yd. footpath works, and repairs to existing concrete carriageway. Documents from Engineer and Surveyor, Council Office, Woking. Deposit £2 2s. Tenders by Aug. 25.

\***Worcester.**—Site completion, part II, at Warndon housing estate, for City Council. Deposit £2 2s. Tenders by September 14.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

\***Aberdare, Glam.**—Construction of culvert for U.D.C. Deposit £2. Tenders by September 8.

**Angus.**—Birkhill and Muirhead drainage—extension to sewers in Birkhill for eight new houses, for C.C. including the laying of approximately 150 lin. yd. of 6in. diameter F.C. sewer and other relative work. Documents from the office of the County Engineer, County Buildings, Forfar. Tenders by September 4.

**Aylesbury, Bucks.**—Laying of concrete and glazed stoneware surface water sewers, varying in diameter from 6in. to 15in., including concrete ring and brick manholes, gullies and connections, and ancillary works, in five drainage areas of the town for B.C. Documents from the office of the Borough Engineer and Surveyor, Friarscroft, 3 Oxford Road, Aylesbury. Deposit £2 2s. Tenders by Aug. 24.

**Banbridge, Down.**—Construction of a sewerage scheme and sewage treatment works at Seapatrik, Banbridge, for R.D.C. The works comprise the laying of approximately 130 lin. yd. 4in. diameter, 300 lin. yd. 6in. diameter 245 lin. yd. 9in. diameter 265 lin. yd. 12in. diameter. Glazed earthenware pipes; and 50 lin. yd. 4in. diameter 130 lin. yd. 6in. diameter, 30 lin. yd. 9in. diameter, 30 lin. yd. 12in. diameter. Spun Iron Main; and the construction of a sewage treatment works, comprising inlet works, sedimentation tanks, sludge digestion tanks, filters, sludge drying beds and work pump house. Documents from the Engineer and Surveyor's Department, Town Hall, Banbridge. Deposit £5. Tenders by September 9.

**\*Beverley, Yorks.**—Woodmansey sewerage scheme, contract 5, for R.D.C. Deposit £3 3s. Tenders by September 1.

**Bollington, Ches.**—Oak Lane sewerage for U.D.C., including the laying of about 675 lin. yd. of 6in. diameter concrete pipe sewer and construction of eight concrete manholes. Documents from the office of the Engineer and Surveyor, Council Offices, Bollington, Macclesfield. Deposit £2 2s. Tenders by Sept. 1.

**Bridport, Dorset.**—Burton Bradstock S. D. Works extensions—Stage I, for R.D.C., including the construction of a cold digestion tank, sludge drying bed and ancillary works. Documents from the Engineer and Surveyor, Mountfield, Bridport. Tenders by September 13.

**Brierley Hill, Staffs.**—Foul water sewer duplication, Dawley Brook, and extension of 15in. diameter cast-iron siphon, Moor Street, for U.D.C., comprising 430 lin. yd. of 15in. diameter stoneware pipes laid in a private estate road, and 72yd. 15in. cast-iron piping laid in a public highway, together with precast concrete manholes, and other ancillary works. Documents from R. H. J. Comber, engineer and surveyor, Civic Buildings, Brierley Hill. Deposit £3 3s. Tenders by Aug. 31.

**Bromsgrove, Worcs.**—Construction of surface water sewer Alvechurch Lane, Burcot, for U.D.C. The approximate quantities are as follows: 200 lin. yd. 9in. diameter storm water sewer. Documents from the Engineer and Surveyor, Council House, Bromsgrove. Deposit £2 2s. Tenders by August 25.

**Bury, Lancs.**—Extensions to Blackford bridge sewage works, for B.C., comprising reinforced concrete detritus tanks, screen chambers, storm water tanks, storm water overflows and channels, pumping stations, rising mains, mechanical plant, sewerage, access roads, and ancillary works. Documents from Borough Engineer Town Hall, Bury. Deposit £5 5s. Tenders by September 2.

**\*Cambridge.**—Piping of public ditches, for City Council. Deposit £2 2s. Tenders by September 14.

**Caterham and Warlingham, Surrey.**—Construction of a surface water soakaway in Bond Road, Warlingham, for U.D.C. The soakaway is to be 5ft. internal diameter and 40ft. deep, lined with precast concrete rings. Documents from the Engineer and Surveyor, Council Offices, Caterham. Tenders by Sept. 4.

**Cheshire.**—Construction of one or both of the following works, comprising the laying of new surface water drains and incidental works, for C.C.: (Contract 1). Chester-Wrexham trunk road, A.483, Pulford—approximately 450 lin. yd. of 9in. diameter and 15in. diameter pipe drain from junction with Poulton Lane to Pulford Brook; (2). Seahill Road, C.203 Saughall—approximately 600 lin. yd. of 12in. diameter pipe drain from near the Vernon Institute to Seahill Brook. Documents from C. G. Day, county surveyor, County Surveyor's Department, Backford Hall, near Chester. Deposit £2 2s. each cheque payable to C.C. Tenders by September 5.

**\*Cowes, I. of W.**—Diversion and re-laying of sewer, for U.D.C. Deposit £2 2s. Tenders by September 8.

**Derwent, Yorks.**—Provision and laying of approximately 1,960 lin. yd. of 12in., 9in. and 6in. sewers, the building of two pumping stations, the laying of approximately 1,130 lin. yd. of 4in. and 5in. pumping main, and construction of a sewage disposal works at Escrick, near York, for R.D.C. Documents from the offices of Fairbank and Son, consulting engineers, 29 St. Mary's, York. Deposit £3 3s. cheque payable to R.D.C. Tenders by Sept. 4.

**\*Docking Norfolk.**—Burnham Market sewerage and sewage disposal scheme, for R.D.C. Deposit £10 10s. Tenders by September 16.

**Glossop, Derbys.**—Supply and laying of about 100 lin. yd. of sewer in glazed stoneware and cast-iron pipe, the construction of three manholes, the installation of one hatch box, and all ancillary works at Lower Dinting for B.C. Documents from the Borough Surveyor's Office, Municipal Buildings, Glossop. Tenders by Aug. 31.

**Haydock, Lancs.**—Construction of approximately 4½ miles of sewers of varying sizes up to 48in. in diameter, together with storm water overflow, manholes and other appurtenant works, for U.D.C. Documents from the offices of Charles J. Lomax and Son, civil engineers, 68 Barton Arcade, Deansgate, Manchester, 3. Deposit £5 5s. Tenders by August 24.

**Huntingdon.**—Cleansing 638 yd. and piping in with 12in. and 24in. pipes 372 yd. of ditch at Keynton, for R.D.C. Documents from the Public Health Inspector, Montagu House, Huntingdon. Tenders by August 31.

**\*Ilford, Essex.**—Woodford Avenue surface water sewer, for B.C. Deposit £2 2s. Tenders by September 26.

**\*Isle of Ely.**—Construction of approximately 600 yd. of surface water drainage sewer in the A.605, Whittlesey—Peterborough Road, ranging from 15in. to 12in. diameter including precast concrete manholes road gullies and connections, contract 1, for C.C. Applications to the County Surveyor, County Hall, March, Cambs. Tenders by September 11.

**Littleborough, Lancs.**—Construction of approximately 93 lin. yd. of 9in. diameter earthenware sewer, and one brick chamber for U.D.C. Documents from D. W. Allison, engineer and surveyor, Council Offices, Littleborough. Tenders by Sept. 4.

**\*Loddon, Norfolk.**—Sewerage of Ellingham and Gillingham, for R.D.C. Apply by August 26. Deposit £5 5s. Tenders by September 28.

**Loftus, Yorks.**—Construction of approximately 1,350 lin. yd. of 6in. foul water sewer, Easington, for U.D.C. Documents from T. C. Ellison, clerk of the Council, The Council House, Loftus, Saltburn. Deposit £2 2s. Tenders by Sept. 7.

**Manchester.**—Heighting a concrete manhole in Clayton Vale for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by Aug. 28.

**Newmarket, Cambs.**—Extension to sewer, Angle Common, Soham, for R.D.C. including laying of approximately 75yd. of 6in. pitch fibre pipe sewer. Documents from the Engineer and Surveyor, Council Offices, Park Lane, Newmarket. Tenders by August 23.

**Newry, Down.**—Sewerage scheme, contract 1, for U.D.C., comprising the construction of (a) sewage treatment works for the town, comprising inlet works, sedimentation tanks, sludge digestion tanks, works pumping house and administrative buildings, sludge drying beds, river outfalls, together with pilings and ancillary works; (b) approximately 920 lin. yd. 18in. diameter, 295 lin. yd. 4in. diameter, 790 lin. yd. 3in. diameter spun-iron main; (c) sewage and stormwater pumping station and approximately 410 lin. yd. low level 21in. diameter inlet sewer; (d) 21in. diameter pipe crossing under Newry Canal by thrust boring, and a 21in. diameter pipe crossing under Newry River. Documents from Munce and Kennedy, consulting engineers, 133 University Street, Belfast, 7. Deposit £5 5s., cheque only, payable to the Council. Plans also seen at the Council Offices, Town Hall, Newry. Tenders by Sept. 11.

**\*North Kesteven, Lincs.**—Laying of 322 lin. yd. of 6in. diameter concrete pipes and the construction of 4in. glazed ware house drain connections to properties in the parish of Bracebridge Heath, together with concrete manholes, inspection chambers and other incidental works, for R.D.C. Documents from J. Freeman, Surveyor's Department, Flaxengate, Lincoln. Deposit £2 2s. Tenders by August 24.

**\*Richmond, Yorks.**—Following for the Moulton sewerage scheme for R.D.C.: (Contract 1) Construction of approximately 1,110yd. of 6in. earthenware sewer, an ejector station, and approximately 175yd. of 4in. spun-iron pumping mains; a disposal works, comprising balancing and sedimentation tank, percolating filter, humus tanks and sludge drying beds; (2) supply and erection of a duplicate set of 18 g.p.m. compressed air ejectors. Documents from the Engineer and Surveyor, Swale House, Richmond. Deposit £2. Tenders by Sept. 4.

**Shrewsbury, Salop.**—Construction of two surface water sewers and a foul sewer, comprising following approximate quantities, at Belvidere, for B.C.: 450 lin. yd. 30in. diameter concrete pipe; 700 lin. yd. total of 15in., 12in. and 9in. concrete pipe; 300 lin. yd. 9in. S.G.W. pipe, with inverted siphon spun iron pipe under railway and appurtenant manholes. Documents from Borough Surveyor, Guildhall, Shrewsbury. Deposit £2 2s. Tenders by September 11.

**Stokesley, Yorks.**—Ingleby, Arncliffe and Ingleby Cross sewerage and sewage disposal scheme, for R.D.C., including the following works: Sewers—the laying of 352yd. of 8in. diameter, 1,482yd. of 6in. diameter, 280yd. of 4in. diameter pitch fibre pipe sewers and

70yd. of 6in. diameter C.I. sewers, together with manholes—32 precast concrete ring segment manholes varying in depth from 5-11ft.; ejector station—the construction of a small compressed-air ejector station to house two 20 g.p.m. ejectors, comprising well 8ft. x 10ft. 6in. x 15ft. deep, and house, 14ft. x 10ft. 6in. x 8ft. high, together with the construction of 210yd. of 4in. cast-iron rising main, and appurtenant fencing and site works; sewage disposal works—the construction of two pyramidal sedimentation and humus tanks, two percolating filters, sludge drying beds, ejector house and well, together with appurtenant fencing and site works. Documents from Engineer and Surveyor, Council Offices, Stokesley, Middlesbrough, on and from August 18. Deposit £5 5s., cheque payable to R.D.C. Tenders by October 6.

**Strood, Kent.**—Construction of a filter bed and humus tank, together with ancillary works at the sewage disposal works, Allhallows, for R.D.C. Applications to the Engineer and Surveyor, Council Offices, Frindsbury Hill, Strood. Deposit £5 5s. Tenders by September 13.

**Sutton-in-Ashfield, Notts.**—Repairs to humus tank at Unwin Road sewage works for U.D.C., including the demolition of approximately 40 sq. yd. of 14in. blue brick work, and the construction of a reinforced concrete retaining wall, 17yd. long and 2yd. high. Documents from the Engineer and Surveyor, Forest Lodge, Station Road, Sutton-in-Ashfield. Tenders by Sept. 8.

**Urmston, Lancs.**—Trafford Park resewage scheme for U.D.C., including the construction of some three miles of sewers, in sizes from 57in. diameter, together with miscellaneous associated works, stormwater overflows, etc. and the construction of a sewage pumping station and rising main. The work will be executed partially in open trench at depths of up to 30ft., and partially in heading, and includes a cofferdam crossing of the Bridgewater Canal. Applications to the Engineer and Surveyor, Council Offices, Urmston, Manchester, by Aug. 24. Deposit £5 5s. Tenders by Sept. 20.

**Wandsworth.**—Following for B.C.: (a) Construction of 1,300yd. storm relief sewer; and (b) culverting of 290yd. of watercourse. Applications giving names of two technical and two financial referees, to J. Noel Martin, town clerk, Municipal Offices, Wandsworth, by Aug. 23.

**West Bridford, Notts.**—Following, for U.D.C. Construction of works comprising about 3,100 lin. yd. of glazed stoneware and spun iron pipe sewers of diameters ranging from 30in. to 6in. (part of which may be laid in tunnel), with manholes about 5,200 lin. yd. of spun iron rising mains of diameter ranging from 10in. to 24in. (including a crossing under the River Trent) with chambers and hatchboxes, two sewage pumping stations and storm water tanks, involving reinforced concrete construction together with incidental works. Documents from A. H. S. Waters and Partners consulting engineers, 25 Temple Row, Birmingham, 2, or A. G. Mansfield, clerk of the Council, Offices of the West Bridford Urban District Council, The Hall, Bridford Road, West Bridford. Deposit £5 5s. Tenders by September 26.

**\*Winchester.**—Foul sewer in Dean Lane, for City Council. Deposit £2 2s. Tenders by September 1.

**Windsor, Berks.**—Clewer/Dedworth surface water sewer for B.C.: Construction of approximately 692 lin. yd. of 24in. and 27in. diameter sulphate-resisting spun concrete pipe sewers, and incidental works. Documents from the Borough Engineer, Kipling Memorial Building, Alma Road, Windsor. Tenders by Aug. 25.

**York.**—Reconstruction of the Knaresborough Culvert (part), and ancillary works, comprising approximately 580 lin. yd. of 30in. diameter spun reinforced concrete pipe, with four concrete manholes on in-situ bases for City Council. Documents from Chas. J. Minter, city engineer, surveyor and planning officer, 7 St. Leonard's Place, York. Deposit £3. cheques payable to Corporation. Tenders by Sept. 12.

#### STREET LIGHTING

**Accrington, Lancs.**—Supply of 61 top entry fittings, suitable for 400 watt MBF/U lamps, complete with gear and lamps, for B.C. Documents from the Street Lighting Superintendent and Electrical Engineer, Taylor Street East, Accrington. Tenders by August 23.

**Alfreton, Derbyshire.**—Installation of lighting units, for U.D.C. Deposit £2 2s. Tenders by August 26.

**Bala, Merioneth.**—Supply, erection and internal wiring of 13 steel columns and six flat wall brackets with 250-watt colour corrected mercury vapour discharge lamps, lanterns, control gear, etc., for U.D.C. Documents from Llewelyn Williams, clerk of the

Council, Council Offices, Bala. Tenders by August 31.

\***East Barnet, Herts.**—Public lighting contract 953, for U.D.C. Deposit £2 2s. Tenders by September 16.

**Hampshire.**—Road TR.A.303 — junction TR.A.34-Bulring on roundabout: Supply and erection of 13 35ft. steel lighting columns, complete with 200-watt or 280-watt sodium lanterns and accessories, at the above roundabout for C.C. Applications to the County Surveyor, The Castle, Winchester, by Aug. 31.

**Hayes and Harlington, Middx.**—Supply of group B steel street lighting columns, type Stewart and Lloyd GB.1005, or similar as specified, for the period from Sept. 1, 1961, to March 31, 1962, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Hayes. Tenders by Aug. 30.

\***Preston, Lancs.**—Installation of street lighting, for U.D.C. Tenders by September 9.

**Ramsey, Hunts.**—Supply and erection of six street lighting columns and ancillary equipment, for U.D.C. Documents from the Surveyor, Council Offices, 3 Bury Road, Ramsey, Huntingdon. Tenders by August 28.

**Staines, Middx.**—Supply, fitting and erection of 190 group A steel columns, together with gear, lanterns, lamps, etc., for 250-watt M.B.F.U. lighting; 190 group B steel columns, together with lanterns, lamps, etc., with 100/150-watt tungsten lighting and the rest of some existing cast-iron columns, with the provision of new lanterns and cast-iron time-switch boxes, for U.D.C. Documents from the Engineer and Surveyor, Shortwood House, 240 London Road, Staines. Deposit £2 2s. Tenders by Sept. 6.

**Standish-with-Langtree, Lancs.**—Supply of various items of group B street lighting equipment including 70 — 60-watt sodium vapour discharge lanterns and 18 — 15ft. mounting height concrete columns. Documents from H. Knowles, engineer and surveyor, Ashfield House, Standish. Tenders by August 28.

**Sutherland.**—Supply and erection of 19 street lighting units complete on trunk road A9 within the special lighting district of Brora, for C.C. Documents from Edward W. Brannen, county architect, Dornoch. Tenders by August 26.

## INTERNATIONAL

\***New South Wales, Australia.**—Construction of bridge over the George's River, for Department of Main Roads. Tenders by February 1.

## AWARDS

### BUILDING AND DECORATING (See also Housing Schemes)

**Accrington, Lancs.**—Erection of a shopping centre at Union Street for the Goodacre Development Corporation — Mullen and Durkin, Ltd., Trafalgar Street, Burnley. H. Hubbard Ford, architect, 35 South Audley Street, London, W.1; Cecil F. Baker and Partners, quantity surveyors, 51 Gildredge Road, Eastbourne, Sussex; and M. M. Khan, 88 Rochester Row, London, S.W.1. is the consulting engineer.

**Alton, Hants.**—Alterations to observation wards at Lord Mayor Treloar Hospital for the Wessex Regional Hospital Board — Goodall, Barnard and Clayton, Ltd., Worthing Road, Basingstoke. £4,187 (recommended).

**Battersea.**—Repairs, improvements and decorations at Battersea Institute and Lavender Hill Secondary School for L.C.C. H. T. Oliver and Sons, Ltd., 371 Clapham Road, London, S.W.9, £41,979 (accepted); R. H. Lynn and Co., Ltd., £48,009; Galbraith Bros., Ltd., £52,508; E. J. Lacy and Co., Ltd., £53,821.

**Bicester, Oxon.**—Erection of phase II of the proposed Church of England Primary School at Marsh Gibbon for Buckinghamshire C.C. — Norman Collisson (Contractors), Ltd., London Road, Bicester (recommended extension of contract).

**Birmingham.**—New fermentation wing No. 2 for Ansell's Brewery, Ltd.—John Laing and Son, Ltd., Mill Hill, London, N.W.7.

**Birmingham.**—Erection of three new special schools in the Northfield district for E.C.—Higgs and Hill, Ltd., South Lambeth Road, London, S.W.8, estimated cost £250,000. Wood and Kendrick and Williams, architects, 57 Colmore Row, Birmingham, 1, in association with A. G. Sheppard Fidler, city architect; L. C. Wakeman and Partners, quantity surveyors, 2 Lowndes Street, London, S.W.1.

**Bristol.**—Extensions to the Dental Hospital for the United Bristol Hospitals—John Laing Construction, Ltd., 39-43 College Green, Bristol, 1. Estimated cost £325,000. W. H. Watkins, Gray and Partners, architects, 8 Colston Avenue; Faithful and Gould, quantity surveyors, Eagle House, Colston Avenue; Hoare, Lea and Partners, engineering and electrical consultants, 21 Oakfield Road, Clifton; Clarke, Nicholls and Marcel, structural consultants, 10 Apsley Road, Clifton. Work commencing Aug. 21.

**Bromley, Kent.**—Construction of a day centre at Lennard Hospital for South East Metropolitan Regional Hospital Board—W. H. Willson and Co. (Builders), Ltd., 125 Masons Hill, Bromley, £28,268.

**Camberwell.**—Erection of a kitchen and a hall at Brunswick Park Primary School for L.C.C.—F. H. Beeching and Son (Keston), Ltd., Keston, Kent, £22,454 (accepted); Norman, Wright (Builders), Ltd., £23,700; C. P. Roberts and Co., Ltd., £27,532; Yeomans and Partners, Ltd., £28,590; William Willett (Contractors), Ltd., £28,722; Thomas and Edge, Ltd., £29,050.

**Carlisle, Cumb.**—Erection of dermatology unit at Cumberland Infirmary for Newcastle Regional Hospital Board. N. Edgar, regional architect: Building work—J. Millar and Sons, 15 London Road, Carlisle, £22,359; electrical work—D. Thomson and Son, Ltd., Carlisle, £2,562; mechanical and engineering services—J. T. Leake and Co., Ltd., Newcastle upon Tyne, £5,647.

**Chailly, Sussex.**—Erection of sanitary annexes and an occupational therapy room at Pouchlands Hospital for South East Metropolitan Regional Hospital Board—Ringmer Building Works, Ltd., Ringmer, Lewes, Sussex, £14,583.

**Chatham, Kent.**—Construction of a pavilion at Luton Recreation Ground, and junior library, workshop and offices at Central Library for B.C.—Peach and Co., Waldergrave Road, Chatham, £2,691 and £4,327, respectively (recommended).

**Chelmsford, Essex.**—Following for B.C.: Stage I works for new swimming bath—R. W. Hill and Co., Ltd., Beaches Drive, Chelmsford, £1,966; reinforced floors piling and drainage for phase II of new cattle market—Concrete Piling, Ltd., 10 Westminster Palace Gardens, London, S.W.1, £19,563.

**Chester.**—Conversion of 72-76 and 102-106 Elm Park Gardens into 20 two-bedroom flats and two basement studio flats for B.C.—William Willett (Builders and Decorators), Ltd., Sloane Square, London, W.1, £89,372 (recommended, amended tender); Falkus Bros., Ltd., £93,804; Walter Lilly and Co., Ltd., £95,984; Sims and Russell, Ltd., £96,311; W. Loweth and Sons, Ltd., £97,810; C. P. Roberts and Co., Ltd., £98,448; E. H. Burgess, Ltd., £98,977.

**Crawley, Sussex.**—Extensions and alterations at Fleming Way for Upjohn, Ltd., including the construction of a new production area with laboratories, packaging and processing rooms, extensions to the goods assembly area and the addition of a first floor to the existing single-storey office block—J. Y. Lovell (Sussex), Ltd., The Bishopric, Horsham. Estimated cost £582,158. Work commenced.

**Darlington, Dur.**—Erection of the Skerne Park Primary School for E.C. E. A. Tornbohm, borough architect—Building work—R. Blackett and Son, Ltd., Bondgate, Darlington, £46,326; heating installation—R. Pickersgill and Sons, Ltd., Silver Street, Stockton-on-Tees, £5,137; electrical work—Cox Walkers, Ltd., Feethams, Darlington, £1,968.

**Darlington, Dur.**—Extensions to dining accommodation at Girls' High School for E.C. E. A. Tornbohm, borough architect—Direct Labour, £6,000.

**Durham.**—Erection of a students' hostel at St. John's College for Durham University. Condingley and McIntyre, architects, Owen-gate, Durham City—Goodeve and Son, Claypath, Durham City. Work about to commence.

**Durham.**—Erection of pre-discharge ward at Dryburn Hospital for Newcastle Regional Hospital Board. P. H. Knighton, board's chief architect, Builders—M. D. Lilley and Son, Back Woods Terrace, Murton, Co. Durham, £50,386; mechanical engineering services—Rowell (1924), Ltd., Byron Street, Newcastle upon Tyne, £5,246; electrical work—Doves (Darlington), Ltd., Bondgate, Darlington, £3,108.

**Edinburgh.**—Erection of seven-storey building in South Street, Andrew Street and West Register Street for National Commercial Bank of Scotland, Ltd., 42 St. Andrew Square, Edinburgh, 2. Alex. Pye, resident architect—William Gerard and Sons, 10 Wheaten Street, Edinburgh, 11. Estimated cost £150,000.

**Fleetwood, Lancs.**—Erection of supermarket and shop in Lord Street for Commercial and General Investments (Fleetwood), Ltd.—F. Parkinson, Ltd., Mowbray Drive, Blackpool, Lancs., £25,000. Whitaker, Gardner and Lees, architects, 16 Edward Street, Blackpool; and C. R. Wheeler and Partners, quantity surveyors, 8 Symons Street, Sloane Square, S.W.1.

**Gateshead, Dur.**—Erection of civic restaurant in Park Lane for B.C. G. F. Winters, borough engineer—John T. Bell and Son, Market Street, Newcastle upon Tyne, £42,400.

**Halifax, Yorks.**—Erection of buildings at Albion Mills for John Mackintosh and Sons —Higgs and Hill, Ltd., 33 St. Paul's Street, Leeds. John Mathewson, architect, 33 Alteyn Park, Dulwich, S.E.21; Bond, Foster and Partners, quantity surveyors, 19 Hertford Street, Park Lane, London, W.1; and Frederick S. Snow and Partners, consulting engineers, Ross House, 144 Southwark Street, London, S.E.1. Work commencing this month.

**Hamilton, Lanarks.**—Completion of county offices for C.C.—John Laing and Son, Ltd., Mill Hill, London, N.W.7.

**Hampstead, Middlesex.**—Erection of stage I of Hampstead County Secondary School for L.C.C.—Allen Fairhead and Sons, Ltd., Enfield, Middx., £15,731.

**Hoddesdon, Herts.**—Erection of a factory at Hoddesdon for Morley's (Birmingham), Ltd.—C. L. Nye, Ltd., Caxton Works, Cranborne Road, Pottery Bar, Middx., estimated cost £90,000. Cotom, Ballard and Blow, architects, and Oswald Wainwright and Partners, quantity surveyors, 5 Baker Street, London, W.1. Work about to commence.

**Holyhead, Anglesey.**—Erection of a bus station at Porthyelien for U.D.C.—Blakeley (Sheffield), Ltd., Bridge Works, Hope, via Sheffield. Estimated cost £4,000.

**Hull.**—Alterations and additions at the North Hull Clinic, Ellerburn Avenue, for City Council—F. K. West, Ltd., Clough Road, Kings upon Hull.

**Islington.**—Erection of a children's library at Boothby Road and Giesbach Road for B.C.—Grosvenor Construction, Ltd., 564 High Road, London, E.11, £16,945 (recommended); Walter Lawrence, Ltd., £17,729; Y. J. Lovell and Son, Ltd., £18,274; Pitchers, Ltd., £18,695; Rowley Bros., Ltd., £18,904.

**Kensington.**—Erection of a five-storey block of 18 flats at the corner of Powis Square and Powis Gardens for Land and General Developments group of companies—Griggs and Sons, Ltd., 56 Victoria Street, London, S.W.1, £35,888. Dinerman, Davison and Hillman, architects, 15 Perrin's Lane, London, N.W.3. D. A. Degerdon and Partners, quantity surveyors, Goodwins Court, W.C.2; Bolton, Hennessey and Partners, consulting engineers, 4 Curzon Place, W.1.

**Kensington.**—Erection of a new kitchen block at St. Mary Abbots Hospital for South West Metropolitan Regional Hospital Board—L. and W. Whitehead, Ltd., 169 Clapham Road, London, S.W.9, £62,019.

**Kingston-upon-Thames, Surrey.**—Erection of a medical centre at Kingston Hospital for South West Metropolitan Regional Hospital Board—Grace and Marsh, Ltd., New Bridge Works, Waddon, Croydon, £35,571.

**Lambeth.**—Improvement and repair works as follows for B.C.: 73 Horsford Road—Whyatt (Builders), Ltd., 225 Streatham High Road, London, S.W.16, £2,499; 323-5 Lyham Road—W. H. White (Crofton Park), Ltd., £2,094 (both recommended, subject to Ministry approval).

Erection of a public library at South Island Place for B.C.—Frank R. Freeman, Ltd., 13 Chapel Street, London, N.W.1, £38,270 (recommended).

**Lancashire.**—Site work and erection of buildings for the fuel element development laboratories at Springfield Works, Salwick, near Preston, for the U.K.A.E.A.—J. Gerrard and Sons, Ltd., Swinton, Lancs. The chief architect is R. S. Brocklesby, and the chief quantity surveyor, W. R. Cathrow, both of the United Kingdom Atomic Energy Authority.

**Leeds.**—Erection of the Cross Green County Secondary School, East Leeds, for E.C.—M. Harrison and Co. (Leeds), Ltd., Post Hill Quarries, Farnley, Leeds, 12, £520,032 (recommended).

**Leeds.**—Erection of church in Vesper Road, Kirkstall, for the Church of Jesus Christ of Latter Day Saints, Utah, U.S.A. Peter R. Nuttall, architect, Westwood Chambers, 5 Kay Street, Rawtenstall, Rossendale—Church Building Department. No specialists or sub-trades have been appointed yet. Estimated cost £40,000.

**Leeds.**—Following for City Council: Provision and fixing of rubber flooring and mastic

asphalt underlay in corridors at the Town Hall—Leeds Floorcraft Co., 25 Queen Square, Leeds, 2, £1,314; conversion of watercolour room and improvements in the sculpture gallery and lecture room at the Art Gallery—W. M. Coates and Son, Ltd., 5 Concord Street, Leeds, 2, £3,488; roof repairs to body shop, stores area and plan; fitter shop at Kirkstall Road Works—Pickles Bros. (Slater's), Ltd., Cardigan Road, Leeds, 6, £4,384; adaptations at premises in Belle Vue Road—Robert R. Roberts (Leeds), Ltd., 122 Lower Wortley Road, Leeds, 12, £47,092 (all recommended).

Erection of the East Leeds Hostel for Women—W. J. Simms, Sons and Cooke, Ltd., Haydn Road, Sherwood, Notts, £48,512 (in lieu of previous tender, recommended).

**Leicester.**—Erection of a housing maintenance depot at Evington House estate for City Council—R. Rudkin and Co., 88 Essex Road, Leicester, £2,411 (recommended).

**London.**—Alterations and enlargements to premises at 17 Bruton Street, London, W.1, for First National City Bank of New York. Guise, Davies and Upfold, 132 Sloane Street, London, S.W.1—Kyle Stewart (Contractors), Ltd., Ardsheil House, Wembley Park, Middx. Estimated cost £100,000.

Conversion of a block of flats into offices at New Cavendish Street, London, W.1, for Prudential Assurance Co., Ltd.—Sir Robert McAlpine and Sons, Ltd., 80 Park Lane, London, W.1. Estimated cost £220,000.

**London.**—Erection of multi-storey offices, banking hall, and a public house at corner of King William Street and Cannon Street, London, E.C.4, for Sovereign Securities. Knapton, Deane and Partners, architects, 11 Catherine Place, London, S.W.1—Ashby and Horner, Ltd., 69 Bishopsgate, London, E.C.2. Work commenced.

**Londonderry.**—Construction of a new burial ground, caretaker's bungalow, toilets and stores, together with ancillary works, at Altmanelvin for R.D.C. W. and M. Given, quantity surveyors, 3 Richmond Street, Londonderry—G. Wright, Altmanelvin, Co. Derry, £9,000 (accepted); P. and J. McNicholl and Co., £9,700; F. Hegar and Son, Ltd., £10,054. Work commencing Sept.

**Manchester.**—Construction of buildings at Clayton for Humphreys and Glasgow, Ltd., acting for the Clayton Aniline Co., Ltd.—J. Gerrard and Sons, Ltd., Swinton, Lancs., estimated cost £500,000. Harry S. Fairhurst and Sons, architects, 55 Brown Street, Manchester, 2; Langdon and Every, quantity surveyors, 21 Russell Square, London, W.C.1; and Taylor, Whalley and Spyra, 103 Portland Street, Manchester, 1, are the consulting engineers. Work commenced.

**Nottingham.**—Following for City Council: Minor repairs at several children's homes—George A. Giles and Sons, Ltd., The Limes, Highbury Road, Bulwell, £700; three-classroom unit at Fairham School—William Appleby and Son, Ltd., 177 Castle Boulevard, Nottingham, £15,400 (recommended).

Erection of Gladehill Infants' School, Bestwood Park estate—G. A. Pillatt and Son, Ltd., Quorn Road, off Haydn Road, Nottingham, £47,079 (provisionally accepted, subject to Ministry approval).

**Ormskirk, Lancs.**—Erection of Yew Tree Hotel on corner of Grimshaw Lane and Yew Tree Road for Higson's Brewery, Ltd.—J. B. Johnson and Co., Ltd., 17 Overton Street, Liverpool, 7. G. Keith Davidson, architects, Imperial Chambers, 62 Dale Street, Liverpool, 2; and Wm. Law and Son, 26 Exchange Street East, Liverpool, 2, are the quantity surveyors.

**Oxford.**—Following for City Council: Provision of a bathroom, etc., at 29 Junction Road—J. and H. Cox, Ltd., Bridge House, Littleworth, Wheatley, Oxford, £864; three temporary classrooms at Blackbird Leys Primary School—Terrapin, Ltd., Haddon House, Fitzroy Street, London, W.1, £4,540; extensions to Headington Secondary School—C. B. Hathaway and Sons, Ltd., Station Road, Wheatley, Oxford, £24,436; conversion of the Art Reading Room for science teaching at Northway Secondary School—J. and H. Cox, Ltd., £828; extensions to Bayswater School—Hutchins and Green, Ltd., 1a Southmoor Road, Oxford, £32,470 (recommended).

**Oxford.**—Construction of a block of shops with flats over, to form part of the new town centre at Cowley—Kyle Stewart (Contractors), Ltd., Ardsheil House, Wembley Park, Middx. Estimated cost £150,000.

**Paddington.**—Construction of a gymnasium and other improvements at North Paddington Secondary School, Amberley Road, for L.C.C.—William Walkerine, Ltd., 115a Walmer Road, London, W.10, £41,179 (accepted); Griggs and Son, Ltd., £41,179; W. J. Marston and Son, Ltd., £42,304;

William Willett (Contractors), Ltd., £42,864; Thomas McInerney and Sons, Ltd., £43,670; E. J. Lacy and Co., Ltd., £43,721; Walter Llewellyn and Sons, Ltd., £44,781.

**Petersfield, Hants.**—Erection of a block of 10 precast concrete garages, together with the concrete base, hardstanding and drive-in on the Uplands Road estate, Rowlands Castle; and seven precast concrete garages and hardstanding at Hayes Cottages, Steep, for R.D.C.—Demar Developments, Ltd., 5 The Street, South Harting, Petersfield, £1,969 and £1,124, respectively. Work commencing Sept.

**Plymouth Devon.**—Following for City Council: Removal of defective felt roofs and replacement with asphalt at Devonport High School for Boys—Neuchatel Asphalt (Contracting), Ltd., Richmond Walk, Plymouth, £931 (recommended).

Erection of public conveniences at Central Park, Millbridge and Saltash Passage; eight garages at River View, Prince Rock; 20 at Octagon Street/King Street; 28 at Kent Road/Cambridge Road, Ford; 14 at Pike Road, Efford; hardstandings for 18 cars at Trent Close, Efford; conversion of 73 Delamere Road, Austin Farm; and improvement of 40 Adelaide Street, Stonehouse—Direct Labour (recommended, subject to Ministry approval). Estimated cost £4,392, £2,191, £4,782, £5,314, £3,325, £487, £1,030 and £2,270, respectively.

**Poplar.**—Erection of a branch library in Stafford Road, Bow, for B.C.—Yates (Bow), Ltd., Fairfoot Road, London, E.3, £22,349 (recommended); Combined Contractors (London), Ltd., £22,728; A. E. Symes, Ltd., £22,945; Arthur Webb, Ltd., £22,980; Direct Labour, £23,465; Falkus Bros., Ltd., £23,832; J. Murphy and Sons, Ltd., £24,347; Galbraith Bros., Ltd., £24,383; Y. J. Lovell (London), Ltd., £25,800.

**Portsmouth.**—Following for Wessex Regional Hospital Board: construction of artificial limb and appliance centre at St. Mary's Hospital—Portsmouth, Gosport and District Builders' Guild, Ltd., 28a Kingston Road, Portsmouth, £59,706; upgrading of theatre at Queen Alexandra Hospital—Stapleton and Co., £3,565 (recommended).

**Reading, Berks.**—Following for B.C.: Construction of three classrooms at Reading School—H. D. Dray and Sons, Ltd., 50 Mount Pleasant, Reading, £2,323 (recommended).

External painting at Katesgrove School—Fields, Ltd., 248 Kings Road, Reading, £1,219 (recommended, in lieu of previous tender).

**Richmond, Yorks.**—Construction of public conveniences at York Square for B.C.—G. Jacques, Spennithorne, Leyburn, £1,946 (recommended).

**Rochdale, Lancs.**—Erection of church in Manchester Road for the Church of Jesus Christ of Latter Day Saints, Utah, U.S.A. Peter R. Nuttall, architect, Westwood Chambers, 5 Kay Street, Rawtenstall, Rossendale—Church Building Department. No specialists or sub-trades have been appointed yet. Estimated cost £50,000.

**Romford, Essex.**—Following for B.C.: Decoration of schools, 1961—Chase Cross Girls' Mawney Primary, Rose Park Primary, St. Edward's C.E. Secondary, and St. Ursula's R.C. Infants—Gray Conoley and Co., Ltd., 29 Stephenson Street, London, E.16, £4,650, £2,360, £1,020, £2,450 and £1,470, respectively; Chase Cross Boys—William Blood, Ltd., 43 Durham Street, London, S.E.11, £1,001; Gobions Primary and St. Edward's C.E. Primary—Hammond and Miles, Ltd., Srafton Road, Ilford, Essex, £3,205 and £1,101, respectively; Ingrebourne Primary and Quarles Secondary—A. V. H. (Builders), Ltd., £1,693 and £7,125, respectively; erection of changing and additional toilet accommodation at Westlands Playing Field—L. and S. Builders (Brentwood), Ltd., 36 Cromwell Road, Brentwood, Essex, £11,209; provision of a depot building at Lodge Farm Park—Robert H. Hall and Co. (Kent), Ltd., Paddock Wood, Kent, £1,048; construction of a refreshment kiosk at Lawns Park—Haines and Sheppard, Ltd., 9 Devereux Court, London, W.C.2, £1,450; renewal of cork insulation and replacement by asphalt covering of roof at Town Hall—Neuchatel Asphalt (Contracting), Ltd., Asphalt House, Palace Street, London, S.W.1, £2,060 (recommended).

**Royston, Herts.**—External painting of 122 houses, flats and bungalows for U.D.C.—D. Deller, 7 Oundle Path, Stevenage, Herts, £1,718 (accepted); J. C. Davies and E. Mc-Kail, £1,922; and Kerridge (Cambridge), Ltd., £2,057.

**St. Helens, Lancs.**—Reconstruction of the Theatre Royal for Pilkington Bros., Ltd., Bryan and Norman Westwood and Partners, architects, 21 Suffolk Street, London, S.W.1—Holland & Hannan and Cubitts (North West), Ltd., New Chester Road, Wirral,

Ches. Estimated cost £100,000. Work commenced.

**St. Helens, Lancs.**—Erection of two factories at Parr for the Delta Metal Co.—Robert M. Douglas (Contractors), Ltd., 395 George Road, Erdington, Birmingham, 23, £150,000. Bracewell, Harrison and Coton, architects, 25 Augustus Road, Edgbaston, Birmingham, 15; James G. Lynn and Partners, quantity surveyors, 1 Blythswood Square, Glasgow, C.2; and E. E. Sweeting, consulting engineer, Sailors Walk, 445 High Street, Kirkcaldy, Scotland. Work commenced.

**St. Marylebone.**—Internal and external decorations at Crawford Place Dwellings for B.C.—Wm. Moss and Sons, Ltd., North Circular Road, London, N.W.2, £2,765 (recommended).

**Shoreditch.**—Erection of a hall of residence for Northampton College of Advanced Technology and a new technical college at Finsbury for L.C.C.—M. J. Gleeson (Contractors), Ltd., Cheam, Surrey, £1,006,884 (accepted); Leslie and Co., Ltd., £1,038,947; Walter Lawrence and Son, Ltd., £1,077,586; Patman and Fotheringham, Ltd., £1,118,711; Dove Bros., Ltd., £1,131,751; Trollope and Colls, Ltd., £1,146,900; Y. J. Lovell (London), Ltd., £1,174,598.

**Shoreditch.**—Building works for modernisation of the Public Laundry at Haggerston Baths for B.C.—Anderson and Brown (Bishopsgate), Ltd., 5 Artillery Lane, London, E.1, £11,516 (recommended).

**Southampton.**—Restoring the Duke of Wellington, Bugle Street, for Watney, Combe Reid and Co., Ltd., Bernard H. Dale and Partners, architects, 19 Carlton Crescent—A. E. Jukes and Son, Ltd., 40-60 King Georges Avenue, Southampton (subject to planning and Licensing Justices' permission).

**South Shields, Dur.**—Erection of the Whitehead County Infants' School for E.C.—Gordon Durham and Co., East Boldon, Co. Durham, £40,325. J. Smeds, architect, 56a Camden Street, North Shields; J. S. Glover, quantity surveyor, 15 Winchester Street, South Shields; and F. M. Owsnett, Lloyds Bank Chambers, Fawcett Street, Sunderland, consulting engineers.

**Southwark.**—External painting in sections I and II of the Elizabeth estate for B.C.—Decorating and Design Services, Ltd., 272 Upland Road, London, S.E.22, £4,955 (recommended).

**Stanley, Dur.**—Factory alterations at Greencroft for Ransome and Marles Ball Bearings, Ltd., J. H. Napper and Partners, architects, 133 Osborne Road, Newcastle upon Tyne—John Laing and Son, Norham House, New Bridge Street, Newcastle upon Tyne.

**Stockport, Ches.**—Erection of phase II of extensions at College of Further Education for B.C.—Tersons, Ltd., London, N.3, £459,866.

**Stockton Newington.**—Erection of Civil Defence headquarters and an office at the rear of the Town Hall for B.C.—Y. J. Lovell (London), Ltd., 4 Endsleigh Gardens, W.C.1, £20,132 (recommended).

**Sunderland, Dur.**—Erection of new platers' shed for T. W. Greenwell and Co., Ltd., South Docks—Steel frame, etc.—J. W. Ellis and Co., Swalwell, Co. Durham; concrete work and foundations—Randle and Co., Back Dunelm, Sunderland.

Extensions to plate preparation shop at the shipyard of Short Brothers, Ltd.—Brims and Co., Pandon Buildings, City Road, Newcastle upon Tyne.

**Tottenham, Middx.**—Erection of two garages and a store at Devon Road housing estate for B.C.—Direct Labour (recommended). Estimated cost £1,060.

**Tunbridge Wells, Kent.**—Erection of public conveniences at Central Car Park for B.C.—E. P. Siggers and Co., Ltd., 9 Park Road, Tunbridge Wells, £2,695 (recommended).

**Wallingford, Berks.**—Rebuilding of Carmel College, Mongewell Park (phase I), comprising the erection of classroom block, Synagogue, gymnasium, swimming pool and staff housing—Walden and Son (Henley), Ltd., Empstead Works, Henley-on-Thames, estimated cost £210,000. T. Hancock, of Murton Lupton, architects, 1 Church Lane, Wallingford, Berks.; Davis, Belfield and Everest, quantity surveyors, 9 Ashley Place, London, S.W.1; David Kut, heating and ventilation consultant, 258 Archway Road, London, N.6; and Michael Brown, Landscape architect, 44 Field End, Waldegrave Park, Twickenham, Middx. Work about to commence.

**Wandsworth.**—Alterations and adaptations at Huntingfield Primary School for L.C.C.—A. H. Franklin and Sons, Ltd., 261 Lillie Road, London, S.W.6, £9,820.

**Watford, Herts.**—External painting to 351 houses, flats and shops at Abbots Langley, Radlett, Sarratt and Oxhey, and 14 garages at Radlett and Oxhey for R.D.C. Wm.

**Christopher**, engineer and surveyor, 99 Langley Road, Watford—Wallis and Barnes, Ltd., 69a Lower Paddock Road, Oxhey, Watford, £6,242. Work commenced.

**Westminster**.—Erection of a seven-storey block of 25 luxury flats and four shops at 8 West Halkin Street and 7-10 Lowndes Street, London, S.W.1, for Capital and Counties Property Co., Ltd.—Leslie and Co., Ltd., Peep Street, London, W.8. Sir Lancelot Keay, Basil G. Duckett and Partners, architects, 22 Oldbury Place, W.1; Leonard and Grant, consulting engineers, 171 Victoria Street, S.W.1; A. E. Thorntons, Firkin and Partners, 17 Fitzhardinge Street, W.1. Estimated cost £250,000.

**Winchester, Hants**.—Builders' work in connection with lift installation at Royal Hampshire County Hospital and construction of adolescent psychiatric unit at Hursley Road Sanatorium for the Wessex Regional Hospital Board—G. S. Hallum and Sons, Ltd., 9 Carlton Crescent, Southampton, £3,099, and Downer and Bailey, Ltd., Longclose, Downton, Lymington, £18,397, respectively (recommended).

**Woolwich**.—Erection of 37 garages and extension of a cul-de-sac in Greenhithe Close, Avery Hill estate, for L.C.C.—Bell and Webster, Ltd., Hoddesdon, Herts., £7,529.

**Worsley, Lancs**.—Depot extension for Schweppes (Home), Ltd.—John Laing and Son, Ltd., Dalston Road, Carlisle.

**York**.—Erection of church in Acomb Road for the Church of Jesus Christ of Latter Day Saints, Utah, U.S.A. Peter R. Nuttal, architect, Westwood Chambers, 5 Kay Street, Rawtenstall, Rossendale—Church Building Department. No specialists or sub-trades have been appointed yet. Estimated cost £40,000.

#### DEMOLITION

**Doncaster, Yorks**.—Demolition of the existing buildings on the site of Hyde Park Secondary School for B.C.—G. Middleton, Ltd., £3,294 (recommended).

**Hatfield, Herts**.—Demolition of White Lion public-house for the Development Corporation—Pickford Demolition Co., Ltd., to pay Corporation £23. Work about to commence.

**Ilford, Essex**.—Demolition of two concrete pill boxes adjacent to Barkingside Station for B.C.—Percy Bilton, Ltd., 113 Park Street, London, W.1, £200 (recommended, extension of contract).

**Nottingham**.—Demolition of the following for City Council: Commercial Street area—1-9 (odd) Spring Close; 2-5 (odd and even) Hackney Yard; 2-10 (odd and even) Snowton Terrace; 2-8 (even); 20-24 (even); 3-25 (odd); 9a, 11a, 11b, 43-47 (odd); 47a, 53, 53a and 55 Commercial Street; 1 Close Cottages and 1-19 (odd) Ebury Terrace—J. Watts and Sons (Contractors), Ltd., Porchester Road, Thorneycroft, Nottingham, £1,265. Denman Street area (Contract 29)—12-14 Baldwin Street and 1 Highurst Street—L. O'Neill, 73 Station Road, Ilkeston, £82. Denman Street area (Contract 30)—60 houses, two warehouses and former licensed house, Ronald Street and Bloomsgrove Street—S. Pinder and Sons, Ltd., Church Street, Old Basford, Nottingham, £1,371 (recommended).

**Shoreditch**.—Demolition of 50-74 Cheshire Street and 23-26 Bookham Street for B.C.—Tersons, Ltd., 4 Dollis Park, London, N.3, £1,516 (recommended).

**Witney, Oxon**.—Demolition of three houses and ancillary buildings, all known as 46, 48 and 50 Dark Lane for U.D.C.—B. G. Faherty, Ltd., Long Handborough, Oxon, £48 (accepted); Morrison Demolition Contracts, £75; H. Jefferies, £90; G. R. Ninety, Ltd., £118; A. E. Hobley and Sons, Ltd., £220.

**Woolwich**.—Demolition of hutments and clearance and cultivation of old War Department site at Pippinhall Farm, Eltham, for B.C.—St. Mary's (Contractors), Ltd., 273 Sussex Way, London, N.19, £1,941 (recommended, subject to Ministry approval); Kinman (Contractors), Ltd., £2,175.

#### ELECTRICAL

**Bolton, Lancs**.—Electrical installation at Church Road County Primary School and Robert Galloway Clinic and Ward Street annexe—D. V. Birch, 545 Tonge Moor Road, Bolton.

**Fareham, Hants**.—Installation of two bed-passenger lifts at Knowle Hospital for the Wessex Regional Hospital Board—Keighley Lifts, Ltd., 15 Cumberland Place, Southampton, £8,422 (recommended).

**Islington**.—Major electrical works at City, Queens and Avenell Mansions, for B.C.—Evans and Shea, Ltd., 21 Victoria Street, London, S.W.1, £11,920 (recommended).

**Leeds**.—Installation of 13 amp. switched socket outlets to a standard of three per

dwelling in the remaining 21,706 pre-war dwellings for City Council—Yorkshire Electricity Board (recommended). Estimated cost £288,094.

**Portsmouth**.—Electrical services in artificial limb and appliance centre at St. Mary's Hospital for the Wessex Regional Hospital Board—B. French, Ltd., 36 London Road, Southampton, £3,212 (recommended).

**Reading, Berks**.—Following for B.C.: electrical rewiring at Grove Secondary School—Direct Labour (recommended). Estimated cost £1,200.

Installation of traffic signals at London Road/Redlands Road/Watlington Street—S.G.E. Signals, Ltd., £1,559 (recommended).

**Scarborough, Yorks**.—Rewiring and provision of additional electrical work at 168 houses on the Northstead estate for B.C.—Goods of Scarborough, Ltd., 23 Newborough, Scarborough, £6,726.

**Sherborne, Dorset**.—Electrical work for upgrading blocks C, D, etc., at Coldharbour Hospital for the Wessex Regional Hospital Board—H. W. Smith and Son, 130 Abbotsbury Road, Weymouth, £2,159 (recommended).

**Southampton**.—Provision of a lift and electrical work for the pathological laboratory (stage II) of neurosurgical unit at the General Hospital for the Wessex Regional Hospital Board—Keighley Lifts, Ltd., 15 Cumberland Place, Southampton, £3,776, and B. French, Ltd., 36 London Road, Southampton, £7,325, respectively (recommended).

**Southwark**.—Installation of a fully automatic demineralisation plant at the Bankside Power Station, London, S.E.1, for Central Electricity Generating Board—William Boby and Co., Ltd., Rickmansworth, Herts.

**Westminster**.—B.C. recommended to authorise provision of traffic signals at the junctions of Parliament Square, Bridge Street, Parliament Street, Great George Street, and Parliament Square and Great George Street. Estimated cost £8,500.

**Winchester, Hants**.—Electrical installation at adolescent psychiatric unit of Hursley Road Sanatorium for the Wessex Regional Hospital Board—B. French, Ltd., 36 London Road, Southampton, £3,351 (recommended).

#### FENCING

**Islington**.—Additional fencing works at Douglas estate for B.C.—Clark, Hunt and Co., Ltd., 318-326 Southbury Road, Enfield, Middlesex, £1,907 (recommended).

**Nottingham**.—Provision of fencing at Fernwood Secondary School playing field for City Council—Darlington Fencing Co., Ltd., Darfen Works, P.O. Box 4, Carr Hill, Doncaster, £827 (recommended).

**Romford, Essex**.—Erection of fencing at five play spaces for B.C.—Blakeney and Strange, Ltd., 88 Park Street Lane, Park Street, St. Albans, Herts., £342 (recommended).

#### GAS AND WATER SUPPLY

**Leeds**.—Fitting gas points and other appliances in dwellings on the Cow Close and Armley Heights estates for City Council—North Eastern Gas Board (recommended). Estimated cost £3,100.

**Middlesbrough, Yorks**.—Construction of an 85,000-gallon reinforced concrete break pressure and surge control tank and ancillary works at Ormesby, near Middlesbrough (contract 134) for the Tees Valley and Cleveland Water Board—T. S. R. Winter, engineer—Charles Tennet, Ltd., 74 Church Road, Stockton-on-Tees, £12,290.

**Minehead, Som**.—Laying of 4-in. diameter asbestos-cement water main from Turnhill Lea reservoir to Camp reservoir for U.D.C.—Geo. Lawson and Son, Ltd., Bristol, £833.

**Nottingham**.—Provision of a water supply to Wollaton Hall for City Council—Direct Labour (recommended). Estimated cost £3,000.

**Ramsey, Hunts**.—Water supply to Hollow Lane and Benwick Road: Laying and jointing of approximately 62 miles of 4-in. diameter asbestos-cement water mains with screwed joints, together with ancillary works, for U.D.C.—Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester—Stamford Construction, Ltd., Uffington Road, Stamford, £5,338.

**St. Neots, Hunts**.—Perry Water Tower: Construction of reinforced concrete water tower, capacity 75,000 gallons, height approximately 60ft., at Perry near Buckden, for R.D.C.—Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester—The Vibrated Concrete Construction Co., Ltd., 27 Ashley Place, Westminster, London, S.W.1, £15,983 (recommended).

**Scotland**.—Construction of Cruachan underground pumped storage power station—

Loch Awe scheme for The North of Scotland Hydro-Electric Board—Edmund Nuttall, Sons and Co. (London), Ltd., 22 Grosvenor Gardens, London, S.W.1.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Plymouth, Devon**.—Repairs to existing structure of basin walls at West Hoe Pier, for City Council—Direct Labour (recommended, subject to Ministry approval). Estimated cost £18,600.

**Seaham, Dur**.—Further coast defence works for the U.D.C.—Lewis and Duvivier, consulting engineers, 14 Howick Place, Westminster, London, S.W.1—Brims and Co., Ltd., Pandion Buildings, City Road, Newcastle upon Tyne, £103,047.

#### HEATING AND VENTILATING

**Bolton, Lancs**.—Following for B.C.: Renewal of central heating system to the Knowles Street and Corporation Street portions of the Market Hall—Consolidated Heating Co., Ltd., Columbia Mill, Bedford Street, Bolton; ventilation plant at Smithills Secondary Technical School—R. Walsh, Ltd., Bolton.

**Hull**.—Installation of central heating in Somerset Street School for City Council—F. R. Scott, Ltd., Castle Street, Kingston upon Hull.

**Islington**.—Mechanical engineering services for reconstruction of a major portion of the Hornsey Road Baths for B.C.—Z. D. Berry and Sons, Ltd., 16-18 Regency Street, London, W.1, £127,985 (recommended); Rosser and Russell, Ltd., £132,740; Young, Austen and Young, Ltd., £134,648; G. N. Haden and Sons, Ltd., £135,979; Hopps Heating and Engineering, Ltd., £137,881; Brightside Heating and Engineering Co., Ltd., £139,672.

**Newport, I. of W.**.—Mechanical services for additions to Whitwell Ward at St. Mary's Hospital for the Wessex Regional Hospital Board—Brightside Heating and Engineering Co., Ltd., Anson Road, Milton, Portsmouth, £1,927 (recommended).

**Nottingham**.—Modification and extension of heating installation at the crematorium and installation of heating at Beckhampton Road Hostel, Bestwood Park estate, for City Council—G. N. Haden and Sons, Ltd., 3 Mount Street, Nottingham, £1,119 and £7,696, respectively (recommended).

**Portsmouth**.—Engineering services in main building at the Royal Hospital and artificial limb and appliance centre at St. Mary's Hospital for the Wessex Regional Hospital Board—Norris Warmington Co., Ltd., 38-40 Elm Grove, Portsmouth, £8,341 (recommended).

**Southampton**.—Engineering services for pathological laboratory, stage II, of neurosurgical unit at the General Hospital for the Wessex Regional Hospital Board—Ltd., Anson Road, Milton, Portsmouth, Brightside Heating and Engineering Co., £10,490 (recommended).

**Winchester, Hants**.—Engineering services for adolescent psychiatric unit at Hursley Road Sanatorium for the Wessex Regional Hospital Board—W. Churches and Son, Ltd., 27 St. Pauls Hill, Winchester, £4,801 (recommended).

#### HOUSING SCHEMES

**Ballycastle, Antrim**.—Five pairs semi-detached bungalow-type houses, together with incidental works, at Railway Road, Armagh, for R.D.C.—O. N. Wheeler, architect, 9 Donegall Square South, Belfast—W. and J. Taggart (N.I.), Ltd., Glenmanus House, Portrush, £17,104 (accepted); A. Cusick (Contractors), Ltd., £18,009; W. Smyth and Sons (Ballycastle), Ltd., £19,337.

**Bedlingtonshire, Northumb**.—Forty-two houses to complete housing scheme at Cleaswell, Guide Post, for U.D.C.—A. K. Dennis, surveyor—Direct Labour.

**Blyth, Northumb**.—Fifty-two flats and maisonettes at Phoenix Street for B.C.—D. W. Foster, borough engineer—R. C. Comb (Building Contractors), Ltd., 7 Victoria Terrace, Whitley Bay.

**Denholme, Yorks**.—Eight Homevale flats at Old Road site for U.D.C.—Walker Smith, Ltd., Bingley, Yorks.

**Gateshead, Dur**.—Sixteen-storey block of flats (128 units) between Bensham Road and Rectorby Road for B.C.—G. F. Winters, borough engineer—Wimpey and Co., Ltd., Orchard House, Fenwick Terrace, Newcastle upon Tyne.

**High Wycombe, Bucks.**—Twenty-one aged persons' bungalows at Barry Lodge site, Booker, for B.C.—F. Andrews and Son, Ltd., Park Street, Princes Risborough, £33,850 (recommended in lieu of previous tender, subject to Ministry approval).

**Hull.**—Sixty-three dwellings and 14 garages on eight sites, and 219 dwellings and 74 garages, Boothferry estate, for City Council—E. Barker, Ltd., Hedon Road, Marfleet, Kingston upon Hull (subject to all necessary approvals).

**Ilkeston, Derbyshire.**—Thirty dwellings at Kirk Hallam estate, 2 (north site) for B.C.—F. Sisson and Sons, Ltd., 79 Cromford Road, Langley Mill, Nottingham, £39,500 (recommended, negotiated tender, subject to Ministry approval).

**Islington.**—Fifty-seven dwellings in three separate sites to form the Corbyn Street-Thorpedale Road scheme for B.C.—Herbert Richardson and Sons, Ltd., Erith, Kent, £121,327 (recommended); W. J. Simms, Sons and Cooke, Ltd., £123,953; Walter Lilly and Co., Ltd., £126,906; Patman and Fotheringham, Ltd., £129,046; Grosvenor Construction, Ltd., £128,479; Rowley Bros., Ltd., £128,533.

**Longbenton, Northumb.**—Erection of eight bungalows at Weetslade Terrace, Burradon, for U.D.C.—R. C. Comb (Building Contractors), Ltd., Victoria Terrace, Whitley Bay.

**Matlock, Derbyshire.**—Four Homeville traditional bungalows at Dimple Road for U.D.C.—Ripleyes, Ltd., Ripley, Derbyshire.

**Newquay, Corn.**—Twelve flats, five garages and ancillary site works at Porth Bean Road for U.D.C.—John Govett and Son, Ltd., Truro, £20,146 (accepted); W. C. Wilson (Cornwall), Ltd., £20,906.

**Oxford.**—Three houses and site works, etc., at Barns Road site for City Council—L. W. Foster, Kidlington, Oxford, £7,634 (recommended).

**Plymouth, Devon.**—Two bungalows, four garages and access road at Springfield, Pennycross, for City Council—Direct Labour, £5,205 (recommended, subject to Ministry approval).

**Pontefract, Yorks.**—Thirty-four bungalows and certain communal buildings, together with road and sewer works, in Mill Hill, for B.C.—J. Grice and Son, Tre-Vor, Redhill Drive, Airedale, Castleford.

**St. Marylebone.**—Following for B.C.: Thirty flats at Broadway Street-Penfold Street site—Wm. Moss and Sons, Ltd., North Circular Road, N.W.2, £97,041; an eight-storey block of 16 flats at Freshwater Place site—Griggs and Son, Ltd., 56 Victoria Street, S.W.1, £60,020 (both recommended).

**Skipton, Yorks.**—Twenty-nine Homeville traditional houses, bungalows and block of old persons' accommodation with common room art Glusburn, Eastburn and Grassington for R.D.C.—Middleton (Leeds), Ltd., Manor Works, East Ardsley, Wakefield.

**Southampton.**—Construction of staff houses at Tatchbury Mount Hospital, Totton, for the Wessex Regional Hospital Board—A. E. Knight and Sons (Building), Ltd., Millbrook Roundabout, Millbrook Road, Southampton, £14,698 (recommended).

**Stoke Newington.**—Sixteen flats in a four-storey block at Green Lanes site for B.C.—Stox (Contractors), Ltd., Empress Works, Boreham Road, London, N.22, £49,747 (recommended, subject to Ministry approval).

**Sunderland, Dur.**—Twelve bungalows at Grangetown for R.D.C. C. Emmerson, surveyor—Direct Labour.

**Tottenham, Middx.**—Following sub-contractors for phase VI at Tewkesbury estate for B.C.: wood doors—W. Lawrence and Son, Ltd., £911; kitchen fittings—E. and H. Grace, Ltd., 125a Hamilton Road, London, S.E.27, £475; tiled surrounds and fires—J. S. and F. Folmar (London), Ltd., Capitol House, The Broadway, London, N.W.7, £851; Phillips and Barrett (Builders), Ltd., 116 Torcross Road, Ruislip, £650 (recommended).

**Wellington, Salop.**—Two blocks of multi-storey flats (104 dwellings), Dothill estate for U.D.C.—John Laing and Son, Ltd., Mill Hill, London, N.W.7.

**Widnes, Lancs.**—One pair of houses at Brynn Street and 11 houses, consisting of two blocks of four and one block of three, and three garages situated between Abbey Road and Herdals Close, for B.C.—Clough and Gaskell, Ltd., Spring Bank, Wigan, £4,449 and £20,866, respectively (subject to Ministry approval).

**Withernsea, Yorks.**—One hundred and twenty-two Homeville houses and bungalows, 59 garages, roads and sewers on the Clovelly housing site for U.D.C. H. Shepherd, surveyor—T. R. Barnett, Ltd., Curzon Street, Hull, £200,448 (subject to Ministry approval).

#### MATERIALS AND SUPPLIES

**Barking, Essex.**—Supply of metal windows for contract I, and flue stacks and fireplaces for contract II at Hepworth Gardens/Southwold Drive redevelopment for B.C.—Henry Hope and Sons, Ltd., 17 Berners Street, London, W.1, £2,948, and True Flue, Ltd., 58 Acacia Road, London, N.W.8, £1,294, respectively (recommended).

**Doncaster, Yorks.**—Supply of 1,000 dustbins for the year ending March 31, 1962, for B.C.—Thomas Hill (Successors), Ltd., Stourbridge, Worcs., 33s. 4d. each (recommended).

**Oxford.**—Supply of metal windows for North Oxford Secondary Modern School for City Council—The Crittall Manufacturing Co., Ltd., Basingstoke Road, Reading. Estimated cost £9,790 (recommended, negotiated tender).

**Plymouth, Devon.**—Supply of the following for City Council: One hundred and forty-four E.R.A. 2A fires—H. Lawry, Ltd., Exeter Street, Plymouth, £1,890; 144 tiled surrounds and hearths—The Iron and Marble Co., Ltd., 33 Victoria Street, Bristol, 1, £648; 2,200 reinforced concrete paving slabs, 3ft. by 2ft. (for Laira Bridge)—Amalgamated Roadstone Corporation, Ltd., Liskeard, £2,200 (recommended).

#### MISCELLANEOUS

**Barking, Essex.**—Supply and installation of a refuse pulverising plant for B.C.—John Thompson Industrial Constructions, Ltd., Imperial House, London, W.C.2, £37,059 (recommended).

**Bolton, Lancs.**—Renewal of eight roller shutters at Ashburner Street markets for B.C.—Bolton Gate Co., Ltd., Waterloo Street, Bolton (recommended). Estimated cost £6,880.

**Nottingham.**—Provision of two new cremators for extensions, etc., at the Crematorium for City Council—Gibbons Askham, Ltd., Palace Chambers, Bridge Street, London, S.W.1, £5,440 (recommended).

#### PLANT AND MECHANICAL TRANSPORT

**Doncaster, Yorks.**—Replacement of a tractor shovel/back excavator machine for B.C.—Holdsworth (Yorkshire), Ltd., Leeds, £2,464, including an allowance for the old machine (recommended).

**Hammersmith.**—Supply and erection of four electrically driven, vertical spindle, centrifugal pumps, motors, pipes, valves, etc., at Hammersmith Works for M.W.B.—Hathorn, Davey and Co., Ltd., 31 Bedford Square, London, W.C.1, £15,511.

**High Wycombe, Bucks.**—Supply of a Massey-Ferguson grave digger/shovel for B.C.—Browns Industrial Equipment, Ltd., Leighton Buzzard, Beds., £2,202 (recommended).

**Honiton, Devon.**—Supply of one Karrier Blenheim 18-24 cu. yd. capacity compression refuse collection vehicle and the conversion of one 7 cu. yd. Karrier Bantam refuse collection vehicle into an open tipper for B.C.—A. P. Moor, Honiton, £2,919 (accepted); Stanford and White, Ltd., £2,919; S. C. Tremaine, £2,948.

**Iford, Essex.**—Supply of three Karrier refuse collection vehicles for B.C.—Ray Powell, Ltd., 374 Eastern Avenue, Iford, £8,087 (recommended).

**Islington.**—Supply of two Dennis Paxit Major III continuous loading vehicles for B.C.—Dennis Bros., Ltd., Guildford, Surrey, £7,870 (recommended).

**Llandudno, Caerns.**—Supply of one 2-ton light lorry for the parks department, equipped with detachable canvas cover, for U.D.C.—Kelly Bros. (Garages), Ltd., Mostyn Street, Llandudno, £790.

**Plymouth, Devon.**—Supply of the following for City Council: One Karrier Gamecock 12 cu. yd. side loader and two Karrier Blenheim 30 cu. yd. refuse collection vehicles—M. Thomas (Moors), Ltd., 58 Embankment Road, Plymouth, £1,534 and £3,000 each, respectively; one 40 cu. yd. Packmatic refuse collection vehicle—Shelvoke and Drewry, Ltd., Letchworth, Herts., £4,193; one bulldozer, type D6—Bowmaker (Plant), Ltd., Caterpillar Corner, Exhibition Way, Exeter, £8,740 (recommended).

**Reading, Berks.**—Supply of one Dennis Paxit refuse collection vehicle and one Simon Hydraulic platform vehicle for B.C.—Dennis Bros., Ltd., Guildford, Surrey, £3,542 and £4,467, respectively (recommended).

**Tottenham, Middx.**—Supply of four Harbilt p.c.v.s for B.C.—Harborough Construction Co., Ltd., Harbilt Works, Market Harborough, Leics., £1,923 (recommended).

**Walsingham, Norfolk.**—Supply of one 1,000-gallon diesel-engined cesspool emptier with nightsoil attachment for R.D.C. A. H. Eagle, surveyor—Norwich Motor Co., Ltd., Norwich, £2,300.

**Westminster.**—Supply of an 18 cu. yd. capacity moving floor refuse collection trailer for B.C.—Scammell Lorries, Ltd., Tolpits Lane, Watford, Herts., £1,910 (recommended).

**Woodford, Essex.**—Supply and erection of two vertical spindle, centrifugal pumping units at Woodford pumping station for M.W.B.—Gwynnes Pumps, Ltd., Chancery Road, London, W.6, £6,215.

#### PLAYING FIELDS, PARKS, ETC.

**Barking, Essex.**—Resurfacing of two tennis courts at Barking Park and four at Mayesbrook Park (with No Upkeep surfaces) for B.C.—En-Tout-Cas Co., Ltd., Syston, Leicester, £2,110 (recommended).

**Camberwell.**—Laying out of land at Hunts Slip Road as a playing field for Mary Datchelor Girls' School for L.C.C.—Kinman (Contractors), Ltd., 4 The Broadway, London, W.6, £30,962 (accepted); Turf-soil, Ltd., £32,258; Edward Gait Construction, Ltd., £32,996; A. Stevens, Senior, £33,054; St. Mary's (Contractors), Ltd., £33,289.

**Camberwell.**—Earthmoving, underdrainage, regrading and layout of cricket ground and table, and construction of first stage of entrance road, underdrainage, landscaping and car parking area for development of Honor Oak Sportsground for B.C.—St. Mary's (Contractors), Ltd., 273 Sussex Way, London, N.19, £5,238 and £5,449 (recommended).

**Nottingham.**—Grading works, etc., at Wilford Lane playing fields for City Council—Direct Labour (recommended). Estimated cost £2,600.

#### RAILWAY ENGINEERING

**British Railways.**—Following contracts placed: London Midland Region:

Low power hot water heating and services in Yardmaster's Office, Bescot—The Brightside Heating and Engineering Co., Ltd., Birmingham.

Removal of boiler plant and installation of oil-firing equipment at School of Transport, Derby—R. Longdon and Co., Derby.

Construction of new underbridge adjacent to bridge 57 on the Liverpool/Manchester line—Leonard Fairclough, Ltd., Adlington, Lancs.

Offices and amenities building at Leicester Queen Street Freight Terminal—E. Fox and Co., Ltd., Leicester.

**Southern Region:** Extension of electrification, Dover Marine Carriage Inspection Shed: installation of heating and hot water services—J. Jeffreys and Co., Ltd., London, S.E.1.

London (Eastern) District: resurfacing and surface dressing of roads—Val de Travers Asphalt, Ltd., London, E.C.4.

London (Western) District: cleaning, painting and tarring of bridges—Maurice Hill, Ltd., Horndean, Hants.

Exmouth: station renovations—Jewell and Son, Barnstaple, Devon.

Dumpton Park: station renovations—P. and M. Contractors, Ltd., London, S.W.4.

Ringwood: reconstruction of Bickerley Viaduct—Caffin and Co., Ltd., London, W.C.2.

Windsor and Eton Riverside: cleaning, tarring and painting of bridges—James Robb and Son, Ltd., London, S.E.3.

Mitcham Common, Eastfields Level Crossing: new signal box—Demolition and Construction Co., Ltd., Croydon, Surrey.

Penge East Green Lane Bridge: restoration of wing wall—Aubrey Watson, Ltd., Henley-on-Thames, Oxon.

Dover Marine: Customs examination accommodation—R. J. Barwick and Sons, Ltd., Dover, Kent.

#### ROADS, BRIDGES AND SITE WORKS

**Barking, Essex.**—Reconstruction of London Road, A.124, for B.C.—Waywarden, Ltd., 215 Forest Road, London, E.17, £17,197 (recommended).

**Bebington, Ches.**—Cement grouting of new concrete carriageway, New Chester Road, for B.C.—T. M. McGrath, engineer—Homan and Rodgers, Ltd., Cheltenham, £1,605. Work about to commence.

**Belfast.**—Construction of roads, sewers and ancillary works at Turf Lodge estate extension for City Council—J. Wilson, Lisroden, Portglenone, £52,113.

**Buxton, Derbyshire.**—Roads and sewers at Victoria Park housing estate, section III, for B.C.—Z. and W. Wade (Whaley Bridge), Ltd., Buxton Road, Whaley Bridge, via Stockport, £21,237 (recommended).

**Chatham, Kent.**—Improvement of the carriageway, kerbing and paving in Globe Lane and Melbourne Road for B.C.—Chittenden and Simmons, Ltd., Ditton Place, Larkfield, Maidstone, £4,926 (recommended).

**Chelmsford, Essex.**—Provision of a car park at George Street for B.C.—Neuchatel Asphalté (Contracting), Ltd., Asphalté House, Palace Street, London, S.W.1, £2,010.

**Cheshire.**—Construction of eight bridges and one culvert on the North Cheshire section of the Birmingham/Preston Motorway for C.C. Scott, Wilson, Kirkpatrick and Partners, consulting engineers, 47 Victoria Street, London, S.W.1—John Howard and Co., Ltd., 13 Buckingham Gate, London, S.W.1. Estimated cost £400,000.

**Consett, Dur.**—Construction of roads and sewers (private street works) at Alston Terrace, Bridgehill, for U.D.C.—C.T.C. (Builders), Ltd., Queens Road, Blackhill, Consett.

**Cwmbran, Mon.**—Construction of roads and sewers for Development Corporation—George Wimpy and Co., Ltd., Hammersmith Grove, London, W.6. Estimated cost £185,000.

**Dartford, Kent.**—Completion of the Thames tunnel, between Dartford and Purfleet, for M.T. Mott, Hay and Anderson, consulting engineers, 9 Iddesleigh House, Caxton Street, London, S.W.1. Roadworks—Marplies, Ridgeway and Partners, Ltd., 2 Lygon Place, London, S.W.1, £1,478,364.

Automatic toll collection and registration apparatus, and ancillary equipment. This is being adopted to facilitate the movement of traffic through the toll booths—Communication Systems, Ltd., Strowger House, Arundel Street, London, W.C.2, £31,934.

Construction of the administrative buildings. These include workshops, canteen, stores, garages and a public convenience—C. J. Sims, Ltd., 2 Victoria Street, London, S.W.1, £133,050.

**Darton, Yorks.**—Following works for U.D.C.: (Contract A) Reconstruction of approximately 1,000 lin. yd. of footpaths with tarmacadam at Darton; (B) resurfacing of approximately 3,800 super. yd. of concrete carriageways with cold asphalt at Gawber—(A) C. and F. Construction Co., Leeds Road, Newton Bar, Wakefield, £3,990 (accepted); Tarmac Civil Engineering, Ltd., £4,202; North Lonsdale Tar Macadam, Ltd., £4,488; Ace Asphalts, Ltd., £5,662; (B) North Lonsdale Tar Macadam, Ltd., Albion Works, Sheffield, £603 (accepted); Tarmac Civil Engineering, Ltd., £625; C. and F. Construction Co., £834; Staveley Slag Sales, Ltd., £854; Wm. Prestwich and Sons, Ltd., £892; Norman W. Dunn and Co., Ltd., £770; Ace Asphalts, Ltd., £1,388. Work commencing Sept.

**Downpatrick, Down.**—Construction and completion of factory at Saul Road, Downpatrick, for the Ministry of Commerce. W. Granville Smyth, architect, Lombard Street, Belfast—

H. and J. Martin, Ltd., Ormeau Road, Belfast.

**Farnham, Surrey.**—Bridgefield (part)—completion of surfacing works (hot rolled gravel asphalt) for U.D.C.—G. Poole, engineer—Surrey Bituminous Supplies, Ltd., Littleton Lane, Shepperton, £1,370 (accepted); Waywarden, Ltd., £1,597; Allmacadams, Ltd., £1,442; Roads Reconstruction (Contracting), Ltd., £1,403; H. V. Smith and Co., Ltd., £1,570. Work to commence Sept. 1.

**Fermanagh.**—Following for C.C.: Reconstruction of route B80, Killynure (scheme 1), approximately ½-mile of class B road at Killynure, Enniskillen—Hamilton and Preston, Sligo Road, Enniskillen, £23,135 (accepted); R. J. Pattison Nutt and Sons, Ltd., £34,423; James Balfour, £31,790; P. Clarke and Sons, Ltd., £24,765; J. J. Scallion and Sons, Ltd., £24,701.

Reconstruction of route A.46, Silverhill (scheme 2), approximately ½-mile of class A road at Silverhill, Enniskillen—James Balfour, Trory, Ballinamallard, £25,739 (accepted); J. J. Scallion and Sons, Ltd., £25,999; P. Clarke and Sons, Ltd., £27,023; R. J. Pattison Nutt and Sons, Ltd., £50,176.

**Fleetwood, Lancs.**—Following for B.C.: making-up of North Square—Direct Labour (recommended, subject to Ministry approval). Estimated cost £2,745.

Resurfacing of Radcliffe Road (part)—Trinidad Lake Asphalt Co. (North Eastern), Ltd., India Buildings, Water Street, Liverpool, 2, £3,614 (recommended).

**Formby, Lancs.**—Reconstruction and resurfacing of footpaths and carriageway, part of Duke Street, for U.D.C.—Chas. L. Warren, Ltd., 78 St. Paul's Road, Wallasey, Cheshire.

**Hull.**—Following for City Council: Construction of approximately 2,925 sq. yd. of concrete road and approximately 360 lin. yd. of sewer on the permanent housing site (Ref. 93C), New Road from Convent Lane to Walker Street—Stepney Contractors, Ltd., Grove Hill, Beverley, Yorks.; road and sewer works, Providence Row redevelopment—Direct Labour.

**Ilkeston, Derbys.**—Completion of footpath work at Kirk Hallam estate, section II, for B.C.—Fitzgerald, Hanlon and Co., Ltd., Premier House, St. James Street, Nottingham (recommended; extension of contract).

**Leeds.**—Following for City Council: Private street works—Harrowby Crescent and Harrowby Road (part) and Wyke Drive—Preston and Webb, Ltd., £2,709 and £757, respectively; improvement works, Green Lane (part), Cookridge—Hadspahatic Construction Co., Ltd., Dean Avenue, Leeds, 8, £8,341; Oakwood Lane Roundabout—James W. Tait, Ltd., Moorhouse Works, Moorhouse Road, Bradford, 2, £7,029.

**Leicester.**—Following for City Council: Completion of footways, verges, etc., to serve 122 dwellings on part of the Nether Hall estate—Reed Bros. (Contractors), Ltd., 55 Sports Road, Glenfield, Leicester, £8,677; widening Scraptoft Lane between Uppingham Road and the city boundary—Galliford and Sons, Ltd., The Heath, Wolsey, Hinckley, £41,509 (recommended).

Reconstruction of roads and sewers in the Mill Lane redevelopment area—Galliford and Sons, Ltd., (recommended, in lieu of previous tender). Estimated cost £37,601.

**London.**—Following for City Council: Completion of drive and footpath to back courtyard at Frilford House and resurfacing of school playgrounds—Davis, Watson and Elliotts, Ltd., Windmill Road, Aldershot, £676 and £2,091, respectively; aerial surveys of the Northern By-pass and for purposes in connection with the inner relief roads—Kemps Aerial Surveys, Ltd., £3,210 (recommended).

**Penicuik, Midlothian.**—Construction of foundations for a factory for William Thyne (Plastics), Ltd., Langmuir Works, Sighthill, Edinburgh, 11—John Monteith, Ltd., Dalkeith, Wylie, Shanks and Partners, architects, 12 Clairmont Gardens, Glasgow, 3; James Barr and Son, quantity surveyors, 213 St. Vincent Street, Glasgow; and Anderson and Sutherland, consulting engineers, 63 Frederick Street, Edinburgh, 2.

**Plymouth, Devon.**—Following for City Council: Completion of Armada Way from Windsor Place to Citadel Road, construction of link road from Athenaeum Place to Inner Ring Road, improvement of Tamerton Foliot Road, improvement of Plymbridge Road, widening of Mutley Plain, provision of a temporary car park at Chanel Street and improvement of Pemros Road—Direct Labour (recommended, subject to Ministry approval). Estimated cost £6,672, £3,866, £9,918, £9,852, £2,313, £693 and £16,876, respectively.

**Pontefract, Yorks.**—Improvement of Gypsy Lane, Townville, for B.C.—Jas. Duncan and Co. (Contractors), Ltd., Bradford Road, Tingley, Wakefield.

**Potters Bar, Middx.**—Surfacing of district roads with cold asphalt, including resealing joints in concrete carriageways, and incidental works (the area is approximately 12,940 sq. yd. and the work is to be carried out by machine) for U.D.C.—E. H. Waldon, engineer and surveyor, Wyllyotts Manor, Darkes Lane, Potters Bar—Tarmac Roadstone, Ltd., 25-28 Buckingham Gate, S.W.1, £2,091. Work commencing October, 1961.



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## CRAWLER SHOVELS

**Reading, Berks.** — Following for B.C.: reconstruction of playground at Cintra Secondary School — C. and R.B. Construction (Southern), Ltd., 111 Armour Road, Tilehurst, Reading, £3,027; resurfacing of school playgrounds—Constable Hart and Co., Ltd., Lion House, Richmond, Surrey, £1,987; private street works at Ilkey Road and site preparation works at Bulmershe housing estate, stages II and III — C. and R.B. Construction (Southern), Ltd., £3,802 and £47,657, respectively (recommended).

**Ripon, Yorks.** — Clotherholme Road reconstruction for City Council—W. and J. Glossop, Ltd., Amisfield House, Whitehall Road, Hipperholme, £17,977 (recommended).

**St. Marylebone.** — Provision of additional car parking spaces at Wellington Road estate for B.C.—Marshall Andrew and Co., Ltd., St. Andrew's House, Broadway, London, S.W.1, £1,835 (recommended).

**Salisbury and Wilton, Wilts.** — Resurfacing of roads and other ancillary works on housing sites for R.D.C.: (1) Resurfacing and surface dressing of roads and footpaths, approximately 2,600 super. yd., together with other ancillary works; (2) resurfacing and surface dressing of approximately 2,000 super. yd., together with other ancillary works—(1) Bituminous Road Facilities, Ltd., Kingsway, Wilton, Wilts., £1,102 (accepted); Tar Paving (Winchester), Ltd., £1,182; Roads Reconstruction (Contracting), Ltd., £1,318. (2) Tar Paving (Winchester), Ltd., £1,046 (accepted); Bituminous Road Facilities, Ltd., £1,196; Roads Reconstruction (Contracting), Ltd., £1,437.

**Southall, Middx.** — Reconstruction of the Green (Featherstone to Kingston Road) and construction of bus lay-by, contract 978, for B.C. S. F. Thorne, borough engineer and surveyor—Wilson's Surfacing, Ltd., Kern House, Breakspears Road, Ruislip, Middx., £16,600 (accepted); P. Collins (Contractor), Ltd., £17,381; and Waywarden, Ltd., £18,944. Work commencing Aug. 28.

**South Shields, Dur.** — Following for B.C.: Roads and sewer works for the second part of the realignment and construction of Boldon Lane—William T. Wallace and Son, Ltd., William Street, Gosforth, Newcastle upon Tyne, £38,087; provision of flags and kerbing and improving railway embankments on the Coast Road—Direct Labour, £27,700.

**Spennborough, Yorks.** — Private street works, Ghyllroyd Drive and Avenue, Birkenshaw, for B.C., comprising approximately 520 lin. yd. kerbing, 1,600 sq. yd. carriageway,

1,450 sq. yd. flagging and 270 lin. yd. of 6in. and 9in. s.g.w. pipes. J. Wallbank, borough engineer—D. Bates, 2 Yew Tree Street, Birchcliffe, Huddersfield, £5,505. Work commencing September.

**Stockton-on-Tees, Dur.** — Construction of roads and sewers at Victoria (stage IV) for B.C.—B.A.C.E. (Redcar), Ltd., Redcar £10,974.

**Tottenham, Middx.** — Private street works in the remainder of Wimborne Road for B.C.—Home Counties Contracting Co., Ltd., 24 Hertford Road, London, N.9, £1,286 (recommended).

**West Hartlepool, Dur.** — Construction of roads and sewers at Masefield Road and on the Rift House estate for B.C. J. S. Miles, borough engineer—Direct Labour, £21,000.

**West Riding.** — Construction of a road bridge on the Great North Road at Hopperton in the Nidderdale district for C.C.—Dowsett Engineering Co., Ltd., Dowsett House, Durham Road, Gateshead, 9, £270,956.

**Witney, Oxon.** — Reconstruction of Dark Lane for U.D.C. Colin A. Warner, engineer—B. G. Faherty, Ltd., Orchard House, Long Handborough, Oxon, £17,406 (subject to Ministry approval).

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Bolton, Lancs.** — Reconstruction of the Ulleswater Street sewer for B.C.—Direct Labour (recommended). Estimated cost £4,000.

**Bridlington, Yorks.** — Main drainage scheme, contracts 6 and 7, providing for construction of approximately 670yd. of 24in. diameter, 690yd. of 27in. diameter, 300yd. of 51in. diameter, and 615yd. of 63in. diameter concrete tube sewers, together with manholes, at Bridlington, for B.C. John H. Haiste and Partners, consulting engineers, Belmont House, 20 Wood Lane, Headingley, Leeds, 6—B. E. Conlin, Marton Road, Bridlington. Work to commence within the next few weeks on contract 7, and October on contract 6.

**Brighouse, Yorks.** — Main drainage reconstruction scheme—contract 17, for B.C.: Laying of approximately 49 lin. yd. of 24in., 144 lin. yd. of 21in., 249 lin. yd. of 18in., and 300 lin. yd. of 15in. diameter concrete pipe sewer, together with the construction of 12 brick manholes in Lightcliffe and Hipperholme districts, for B.C. H. A. Sneezum, borough engineer—Hadspahitic Construction Co., Ltd., Johnston House, Hatchlands Road, Redhill, Surrey. Work commencing Oct. 1.

**Chelsea.** — Reconstruction of about 400yd. of brick sewer at Markham Square and Symons Street and provision of manholes during 1961-62 for B.C.—D. R. Paterson, Ltd., 33 Ltd., £7,684; Caffin and Co., Ltd., £7,809; (recommended); Ruddock and Meighan, Ltd., £7,684; Saffin and Co., Ltd., £7,809; Fitzpatrick and Son (Contractors), Ltd., £7,967; Alexander Thomson and Co. (London), Ltd., £8,446; W. F. Rees, Ltd., £9,348.

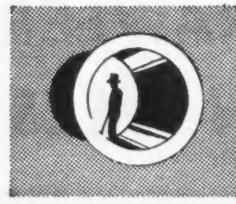
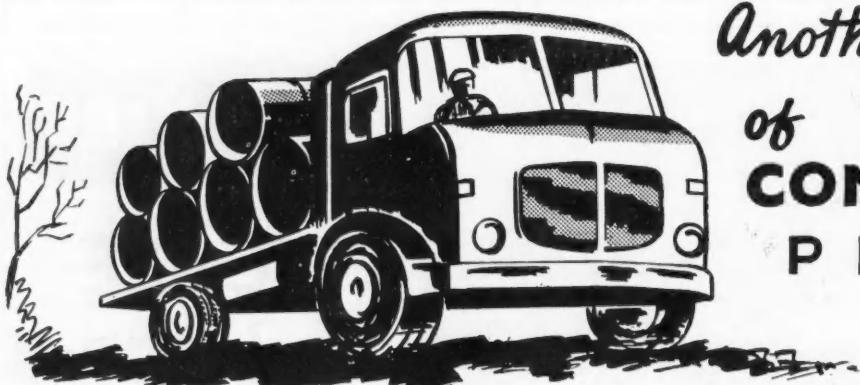
**Chepstow, Mon.** — Caldicot sewerage scheme (contract 1) for R.D.C., comprising the construction of 500yd. of 18in. and 21in. diameter concrete pipes and short sections of connections in gravity sewers; Caldicot West Main Pumping Station, founded at approximately 24ft. below ground level; 700yd. of twin 10in. and 18in. diameter cast-iron pipes in rising mains; outfall sewer, consisting of 670yd. of 30in. diameter concrete pressure and cast-iron pipes, including 160yd. supported on bents formed by twin in-situ piles at 9ft. centres behind sea wall, and 310yd. partly in trench through sea wall and saltings, and partly on the foreshore below high-water mark, supported on bents formed by twin precast piles at 12ft. centres, together with access roads, water services, and other ancillary works. Thomas and Morgan and Partners, consulting engineers, 23 Gelliawastad Road, Pontypridd—Hussey, Egan and Pickmere, 24 Calthorpe Road, Edgbaston, Birmingham, £148,656.

**Chester-le-Street, Dur.** — Barley Mow sewerage scheme for R.D.C. D. Balfour and Sons, consulting engineers, 145 Pilgrim Street, Newcastle upon Tyne—Derek Crouch, Ltd., Station Road, Birtley, Chester-le-Street, £124,440.

**Cosford, Suffolk.** — Kersey sewerage and sewage disposal scheme (contract 1) for R.D.C., comprising the construction of about 2,000yd. of 6in. diameter concrete or stoneware pipe sewers, concrete manholes, etc., and a short length of 4in. diameter rising main in asbestos-cement pressure pipes; also a sewage disposal works, comprising settlement and balancing tanks, percolating filter, humus tank and sludge drying beds, all mainly in reinforced concrete, and a sewage pumping station with reinforced concrete storage sump and pump well and brick superstructure. Lemon and Blizard, consulting engineers, 59 Tufton Street, Westminster, S.W.1—W. B. Kingsbury and Sons, Ltd., Commerce House, Boxford, near Colchester, Essex, £36,338. Work commencing Sept./Oct.

**Crediton, Devon.** — Eggesford sewerage and sewage disposal for R.D.C., including the

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laying of about 250 lin. yd. of 6in. diameter sewers, together with concrete manholes, and the construction of a small sewage disposal works. Harvey, McGill and Hayes, consulting engineers, 8 Richmond Road, Exeter—A. W. Harris, Wembworthy, £3,248 (accepted); Devon Contractors, Ltd., £3,813; W. and J. Glossop, Ltd., £4,189; Northcotts of Exeter, Ltd., £4,236.

**Hartismere, Suffolk.**—Stradbrooke sewage disposal works—construction of concrete sludge drying beds and ancillary building for the existing sewage disposal works for R.D.C.—Alan R. King, Saxlingham, Thorpe, £2,478.

**Haverfordwest, Pembs.**—Carrying out of the sewerage of Punceston Village and the construction of a sewage disposal works for R.D.C. A. J. Davies, engineer—G. V. Williams and Sons, Ltd., 40 Bridge Street, Haverfordwest, £10,578 (accepted); Davies Bros. and Lewis, Ltd., £11,700; Phillips and Marren, Ltd., £14,180; Hussey Egan and Pickmere, Ltd., £15,226; West Wales Construction, Ltd., £15,458; E. Turner and Sons, Ltd., £16,159.

**Keighley, Yorks.**—Construction of approximately 120yd. of 12in. diameter sewer, together with two manholes, Fell Lane, for B.C.—Ferguson Bros., 46 Hill Top Avenue, Leeds, 8, £983. Work commenced 2,900yd. of storm water relief sewer varying in diameter between 12in. and 54in., including all necessary manholes, overflow manholes, connections, reinstatements, and ancillary works, Sedgley Park area, for B.C. J. Theo. Kilner, borough engineer—Mactrac, Ltd., Vineyard Street, Oldham. Work commencing within three months.

**Leicester.**—Inlet works, power and pump station sub-structure, contract 4A, Wanlip sewage disposal works, for City Council—John Laing and Son, Ltd., Mill Hill, London, N.W.7.

**Millom, Cumb.**—Water supply scheme to serve the parishes of Muncaster, Waberthwaite, Irton-with-Santon, Eskdale, Drigg and Cartleton, Bootle and Seascale for R.D.C., comprising laying approximately 18 miles of 9in. to 2in. diameter asbestos-cement main, the construction of two reinforced concrete reservoirs of capacities 750,000 gallons and 200,000 gallons, the erection of a pumping station, the provision and erection of the plant for the pumping station, and other ancillary works—Norman Jackson, The Old Cooperage, Gatebeck, Kendal, £132,471 (recommended).

**Newhaven, Sussex.**—Construction of approximately 700 lin. yd. of 6in. diameter sewer, with manholes, at Mount Pleasant for U.D.C. A. E. Motyer, engineer and surveyor—H. Pannett (Civil Engineering), Ltd., 32 Preston Road, Brighton, £2,558. Work to commence Sept. 1.

**Nottingham.**—Pumping plant for the drainage of Stoke Bardolph Village and premises to be erected by Bitterlings Ltd. for City Council—Lee Howl and Co., Ltd., Tipton, Staffs., £4,834 (recommended).

**Oxford.**—Construction of a surface water drain at Blackbird Leys estate (to serve the secondary school and other buildings to be erected later) for City Council—Tilbury Construction Co., Ltd., Ruscombe Works, Twyford, Berks., £738 (recommended).

**Petersfield, Hants.**—Greatham sewerage scheme for R.D.C. N. P. Scott, engineer and surveyor—Bridgwater Bros. (Public Works), Ltd., 97 East Street, Epsom, Surrey, £14,655. Work commencing September.

**Plymouth, Devon.**—Egguckland Valley sewerage scheme (stage II) for City Council—Direct Labour (recommended, subject to Ministry approval). Estimated cost £19,394.

**Rayleigh, Essex.**—Eastern area sewerage scheme (stage I) for U.D.C., comprising the construction of approximately 1,230 lin. yd. of 27in., 21in., and 12in. diameter concrete or glazed stoneware trunk soil sewer, with flexible joints, between the eastern area sewage works and Bull Lane. W. F. Howlett, engineer and surveyor—Wm. Iles, 9 Swanage Road, Southend-on-Sea, £16,379.

**Rayleigh, Essex.**—Eastern sewage disposal works, contract 2, for R.D.C., comprising extensions to the existing sewage disposal works, construction of reinforced concrete grit channels, circular settlement, storm and humus tanks, and heated sludge digestion tank, a pumping station and concrete sludge drying beds, brick percolating filters and boiler room, the development of an effluent irrigation area, together with all works incidental thereto, for a design population of 14,000. Lemon and Blizard, consulting engineers, 59 Tufton Street, Westminster, S.W.1—W. and C. French, Ltd., 50 Epping New Road, Buckhurst Hill, Essex, £169,227. Work commenced.

**Redditch, Warks.**—Construction of two earth-bank sludge storage lagoons, having a total capacity of 1,320,000 gallons and incidental works for U.D.C. A. H. S. Waters and Partners, engineers, 25 Temple Row, Birmingham, 2—A. E. Farr, Ltd., Station Road, Westbury, Wilts., £9,848 (subject to Ministry approval).

**St. Ives, Hunts.**—Main drainage works in the parishes of Houghton and Wyton, Hemington Abbotts, and Hemington Grey, comprising the laying of approximately 19,029yd. of small diameter sewers and rising main, and the construction of eight small pumping stations, a sewage disposal works, and other ancillary work for R.D.C. Howard Humphreys and Sons, consulting

engineers, West Street, Epsom, Surrey—F. W. Shanks, Ltd., Park Road, Hunstanton, £395,006 (accepted); Kottler and Heron, Ltd., £402,103; Shephard, Hill and Co., Ltd., £414,356; Thomas C. Stewart (Contractors), Ltd., £416,446.

**Seaford, Sussex.**—Construction of a reinforced concrete collecting chamber, 40yd. of 66in. diameter concrete tube sewer, and ancillary works for U.D.C. C. G. Thompson, engineer—The Demolition and Construction Co., Ltd., 3 St. James Square, London, S.W.1, £20,735. Work to commence Sept.

#### STREET LIGHTING

**Barking, Essex.**—Provision of street lighting in Jenkins Lane for B.C.—Eleco, Ltd., Sphere Works, St. Albans, Herts., £709, and London Electricity Board, £1,725, respectively (recommended).

**Bermondsey.**—Supply and installation of lighting columns and electrical equipment for B.C.—Erecom, Ltd., Great Amwell, Ware, Herts., £15,774 (recommended).

**Hatfield, Herts.**—Supply and erection of 30 steel columns complete with lanterns, etc., for Oxlease Development at area B and Oxlease Drive for the Development Corporation—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

**Ilford, Essex.**—Following for B.C.: Supply of equipment for trolleybus routes (stage II), 159 200-watt sodium lanterns, lamps and gear, and 68 mercury fluorescent lanterns—Atlas Lighting, Ltd., 233 Shaftesbury Avenue, London, W.C.2, £2,404 and £857, respectively; 27 steel columns—Stewarts and Lloyds, Ltd., Winchester House, Old Broad Street, London, E.C.2, £5,466 (recommended).

For district roads (stage IV), 1,300 lanterns—Eleco, Ltd., Sphere Works, St. Albans, Herts., £5 1s. each; 1,200 sets of control gear—Atlas Lighting, Ltd., £3,240; 500 aluminium alloy columns—Alfred Miles, Ltd., Tewkesbury Road, Cheltenham, Glos., £6,100; 832 cast-iron columns—Revo Electric, Ltd., Tipton, Staffs., £13 17s. 6d. each (recommended).

For Tomswood Hill, 37 steel columns—Stewarts and Lloyds, Ltd., £891 (recommended).

**Nottingham.**—Following for City Council: Supply of 400 cast-iron electric lamp columns—Smedley Bros., Ltd., Eagle Ironworks, Belper, Derby.; 500 group B lanterns—Wardle Engineering Co., Ltd., Elsinore Road, Manchester, 16; 400 type A swan-neck brackets with spigot caps—A. C. Ford, Ltd., Pear Tree Lane, Dudley; 170 group A and 80 group B sodium lanterns and equipment—lanterns and control gear—Eleco, Ltd., Sphere Works, St. Albans, Herts., £1,733; and lamps and jackets—The General Electric Co., Ltd., £555 (all recommended).

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## GOVERNMENT CONTRACTS

**Air Ministry.**—Contracts to the value of £4,000 or over for the week ended July 28: Building work: Scampton, Lincs.—Wm. Wright and Son (Lincoln), Ltd., Park Street, Lincoln, Lincs.; Buchan, Aberdeens.—James Cran, Queen's Street, Peterhead, Aberdeens.

Artificers' work: Sculthorpe, Norfolk, etc. Walter Lawrence and Son, Ltd., London Street, Swaffham, Suffolk; Gaydon, War.—Bosworth, Wakeford and Stepnell, Ltd., Lawford Road, Rugby, War.; St. Marys, Scilly Isles.—A. N. Coles (Contractors), Ltd., Plymouth, Devon.

Heating and ventilating services (supply and installation): Middleton St. George, Co. Durham—Norris Warming Co., Ltd., Westgate Road, Newcastle upon Tyne.

Preparation and maintenance of land: Air Ministry, Directorate-General of Works Headquarters, Works Area 10 (group 1) and Royal Air Force, Ickenham Road, Ruislip, Middx.—E. Doe and Sons (Contractors), Ltd., Fyfield, Ongar, Essex; Headquarters, Works Area 10 (group 4)—G. O. and W. L. Watts (Grazeley) Contractors, Ltd., Calcot, Reading, Berks.

**Ministry of Finance, Northern Ireland.**—Contracts exceeding £250 in value placed during the period July 3 to July 21, inclusive:

Supply, etc., aluminium alloy and steel windows; Head Post Office, Downpatrick—Crittall-McKinney Metal Window Co., Ltd., Monarch Parade, Donegall Road, Belfast, 12.

Construction of generator house and radio equipment store: R.U.C., Rosemount, Londonderry.—S. Anthony and Sons, Ltd., Pennyburn, Londonderry.

Supply, etc., wrought-iron grilles, gates, railings and balustrades: R.U.C. Headquarters, Bangor — Lamco (Engineering) Ltd., Braidwater Works, Ballymena.

Works and erection of hutting, Reserve Force accommodation: R.U.C., Dernawilt—James Leech, The Bay, Glenariff, Co. Antrim.

Clearance of yards and resurfacing Head Post Office, Ballymena—Samuel Turtle, Ltd., Broadway Avenue, Ballymena, Co. Antrim.

Repairs to main production area roof: Ministry of Commerce, United Kingdom Optical Co., Ltd., Lurgan—Wm. Burns and Sons, 34 Banbridge Road, Lurgan.

Electrical installation: R.U.C., Bellarena—McBride and Davidson, 4 Newmarket Street, Coleraine.

Erection of hutting in the completion of drill hall: U.S.C., Kinoughtragh, near Derrylin—M. Armstrong and Sons, Tempo, Co. Fermanagh.

Provision of 10 pole stacks: Telephone Eng. Centre, Pennyburn, Londonderry—John Eakin and Co., Ltd., 100 Strand Road, Londonderry.

Internal painting: R.U.C., Brown Square, Belfast, 13—McBurney and Cowan, 144 Donegall Pass, Belfast 2.

Part internal cleaning and painting and part external painting: Ministry of Education, Stranmillis Training College—W. McLardy, 51 University Road, Belfast, 7.

Resurfacing roadway scheme 15: S. and S. Housing, Lisanelly—The Mechanical Tar Spraying and Grouting Co., Ltd., Coast Road, Ballygally.

External painting and cleaning and internal cleaning: R.U.C., Kinawley—Robert G. Nelson, 28 Townhall Street, Enniskillen.

Part internal cleaning: Ministry of Agriculture, Strabane Agricultural College—H. Patton and Sons, Clareville, 18 Mountjoy Road, Omagh.

**Ministry of Works.**—Contracts placed for week ended July 29:

Brecknockshire: The Barracks, Brecon—supply of diesel—W. H. Dorman and Co., Ltd., Tiscay Road, Stafford, Staffs.

Caernarvonshire: Pwllheli—erection of automatic telephone exchange—Watkin Jones and Son, Ltd., 16-22 Mount Street, Bangor.

Cardiganshire: Royal Aircraft Establishment, Aberporth—internal and external painting—Baxter Bros. (1920), Ltd., 3a High Street, Port Talbot.

Derbyshire: Works worth—erection of Post Office telephone exchange—I. W. Haynes and Son, Ltd., Strutt Street, Belper; Safety in Mines Research Establishment, Harpur Hill, Buxton—erection of brake test laboratory—Z. and W. Wade (Whaley Bridge), Ltd., Buxton Road, Whaley Bridge.

Glamorganshire: Sea Transport Stores, Llandow—hessian membrane covering to roof—Evode, Ltd., Common Road, Stafford, Staffs.; Llanrumney, Cardiff—extension to

automatic telephone exchange—Miles Bros., John Street, Cardiff.

London: State House, High Holborn, W.C.1—occupational services—E. J. Lacey and Co., Ltd., Steele Road, N.W.10; Marlborough House—additional lift—Otis Elevator Co., Ltd., 30-33 Minories, E.C.3; Science Museum, S.W.7—additional works—Roscoc and Howard, Ltd., 124 Aldersgate Street, E.C.1.

Middlesex: Northwich Park, Harrow—demolition of buildings—Geo. E. Cloke, Ltd., Elstead, Neasden Lane, London, N.W.10; National Physical Laboratory, Teddington—erection of metallurgy laboratory—E. Gostling (Builders), Ltd., Holly Road, Hampton Hill; Ship Hydrodynamics Laboratory, Feltham—supply of cofferdam sections—Harland and Wolff, Ltd., North Woolwich, London, E.16; Public Record Office, Bourne Avenue, Hayes—external and internal decoration work—Architectural Decorators, Ltd., 79 Eccleston Square, London, S.W.1.

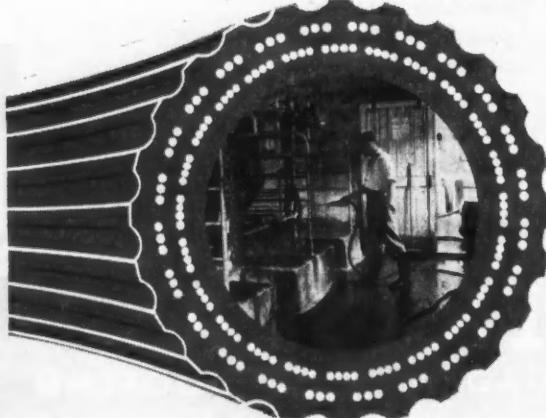
Warwickshire: Post Office, Greenholm Road, Great Barr, Birmingham—erection of postmen's duty office—Turriff Construction (Warwick), Ltd., Budbrooke Road, Warwick; Head Post Office, Victoria Square, Birmingham—external painting and cleaning—C. Bryant and Son, Ltd., Whitmore Heath, Birmingham, 10.

Yorkshire: Prison Commission, Cockshott Lane, Leeds—completion of 16 houses—Arthur Gibbs and Son, (Pudsey), Ltd., 44 Richardson Lane, Pudsey; Rushforth Road, Dewsbury—erection of Crown building—Pickles Bros. (Builders), Ltd., Mile Thorne, Halifax.

**Post Office.**—Contracts for duct laying, etc., works to the value of £4,000 and over placed during the week ended July 29:

The Baillie Contracting Co., Ltd., 2061 Coventry Road, Sheldon, Birmingham, 26; The Dowsett Engineering Construction, Ltd., Dowsett House, Durham Road, Gateshead-on-Tyne, 9, Durham; The Northwest Construction Co., Ltd., Litherland Liverpool, 21; Frank Prendergast, 44 Ivy Lane, Alsager, Stoke-on-Trent, Staffs.; William Press and Son, Ltd., 22 Queen Anne's Gate, Westminster, London, S.W.1; D. J. Sullivan (Bristol), Ltd., 16 Burlington Road, Redland, Bristol, 6; Alexander Thomson and Co. (London), Ltd., 45a Kensington High Street, London, W.8.

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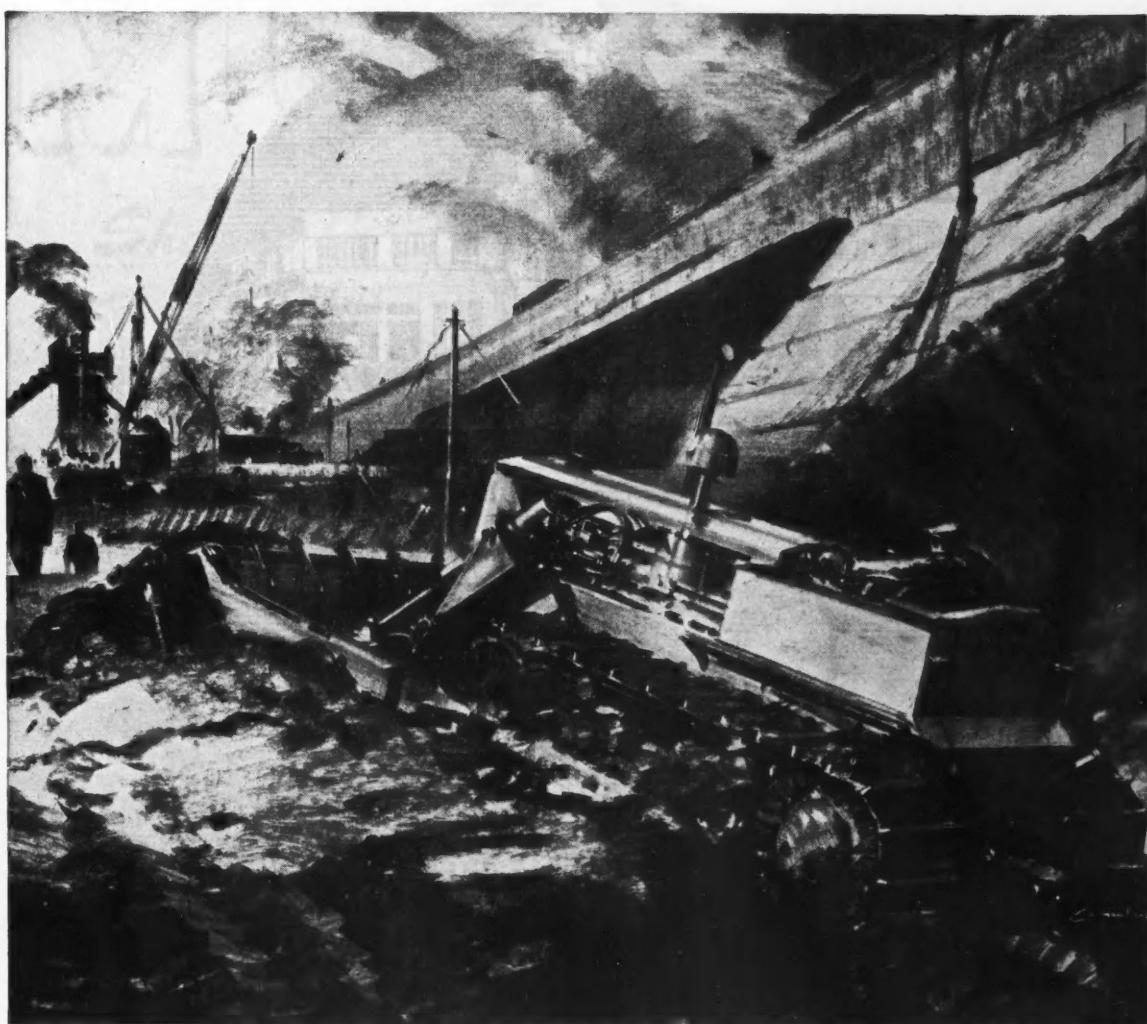
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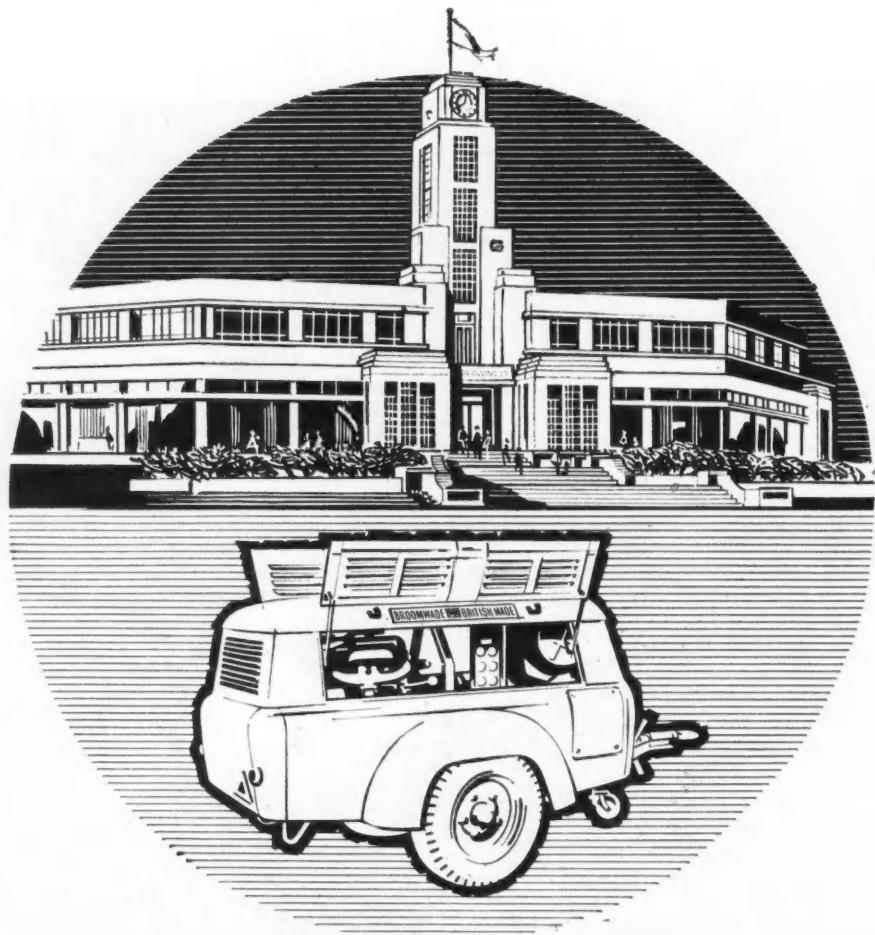
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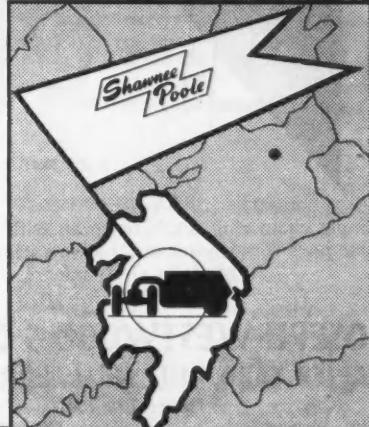


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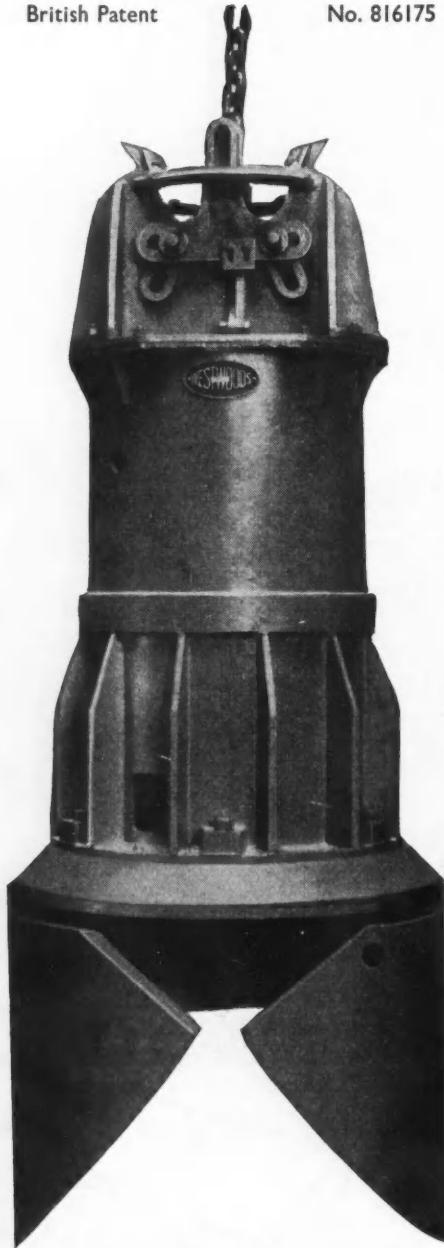


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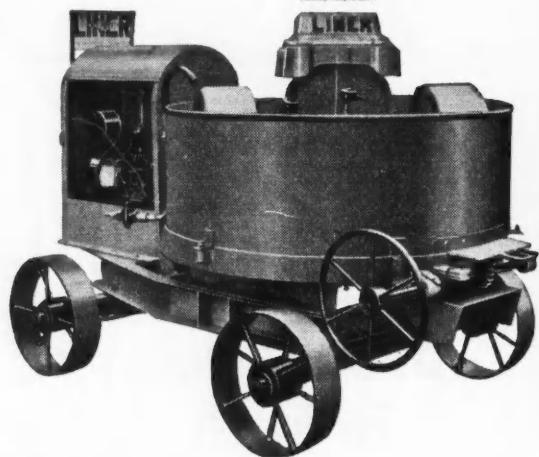
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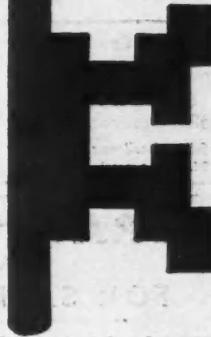


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(Continued from page 764)

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15cwt. GM Neals Fully Mobile Diesel Cranes, 18ft. Straight and 20/40ft. Telescopic Jibs.  
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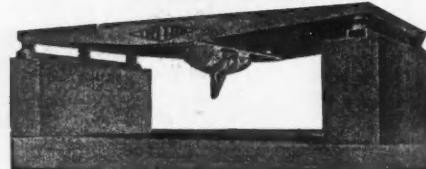
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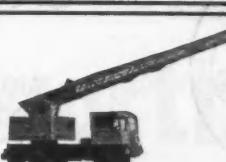
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C.P.T. COMPRESSORS, 2-ton and 4-ton.  
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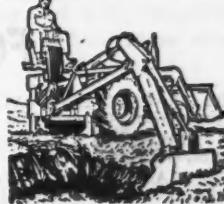
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19RB, 10000 Series, Backacter, Paxman (Midlands). £1,700.

19RB, 11000 Series, Dragline or Skimmer/Backacter (London). £2,200.

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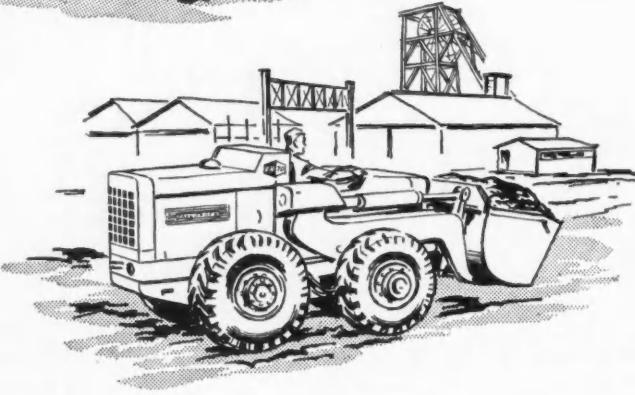
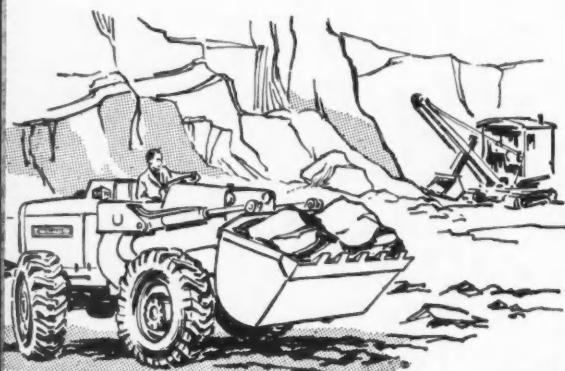
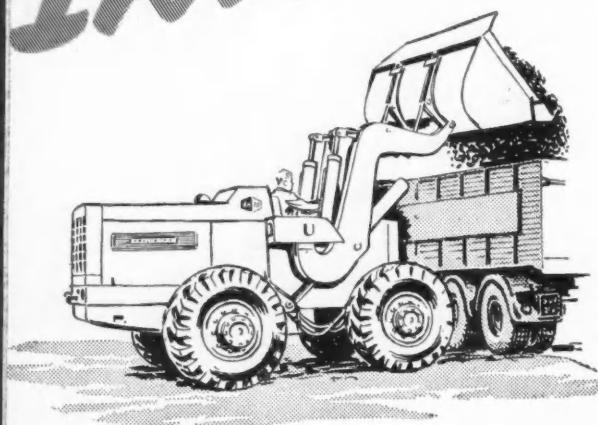
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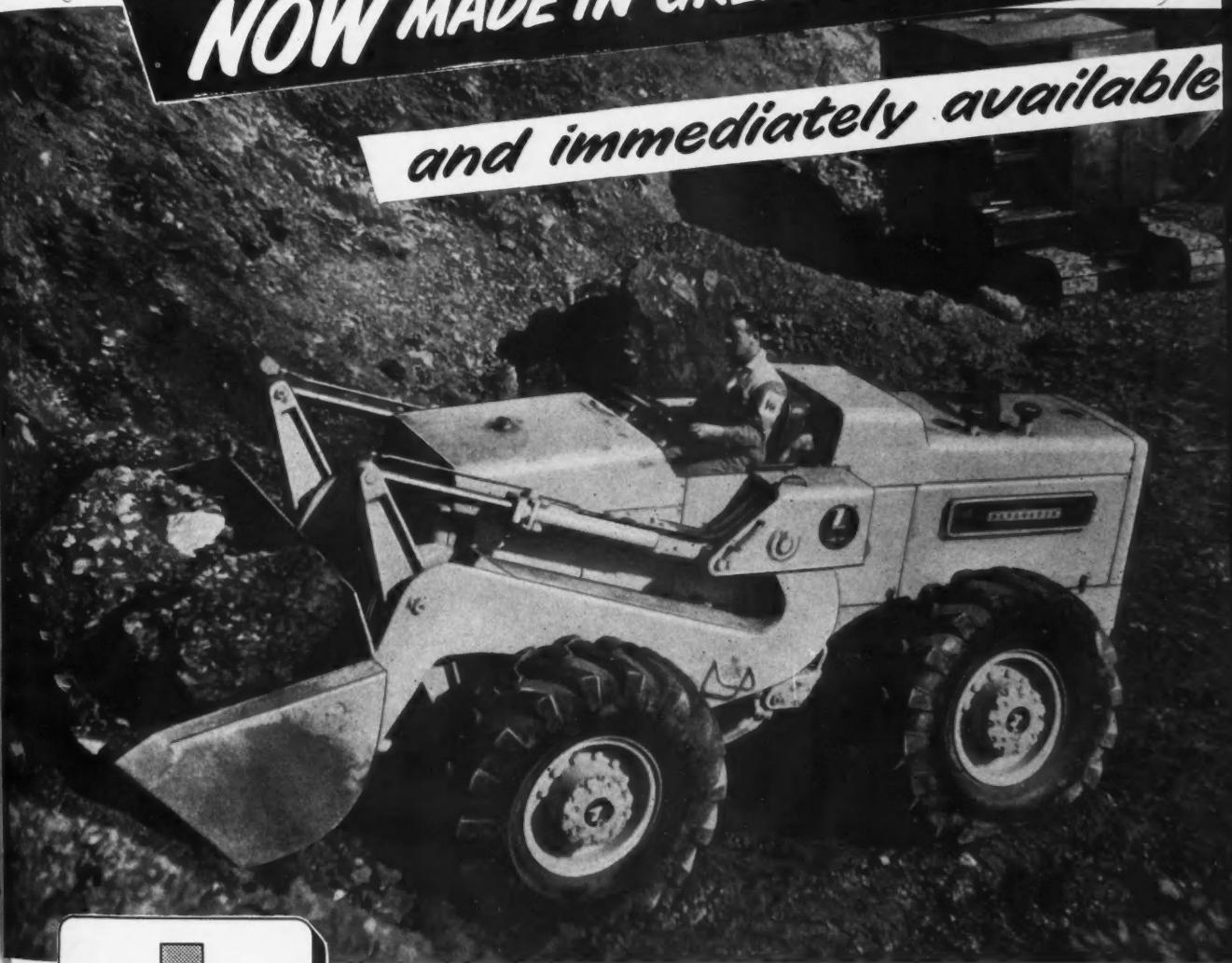
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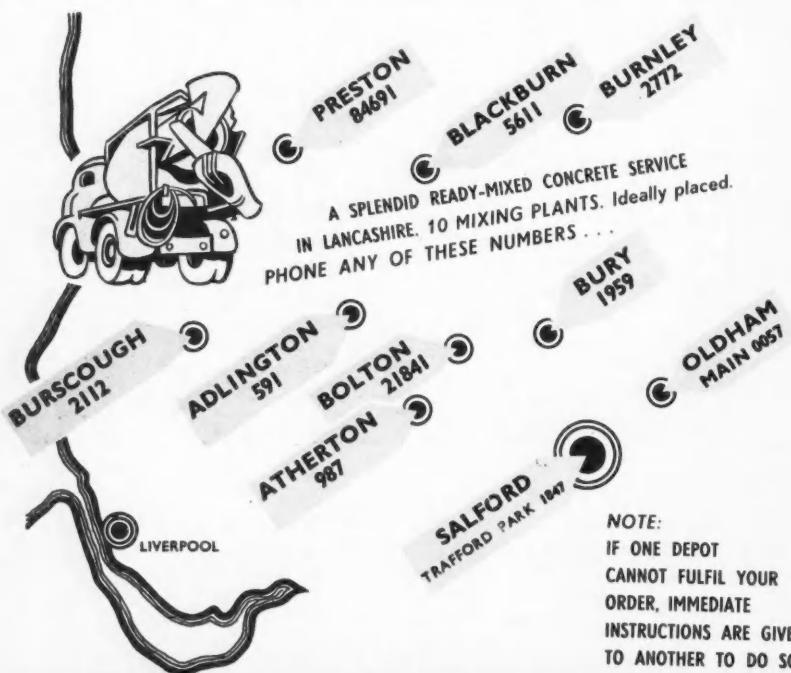
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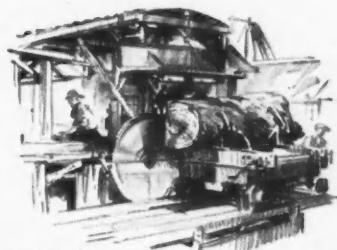
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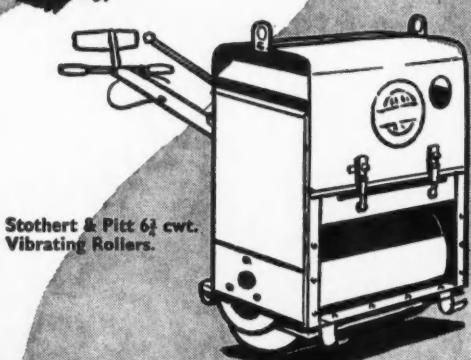
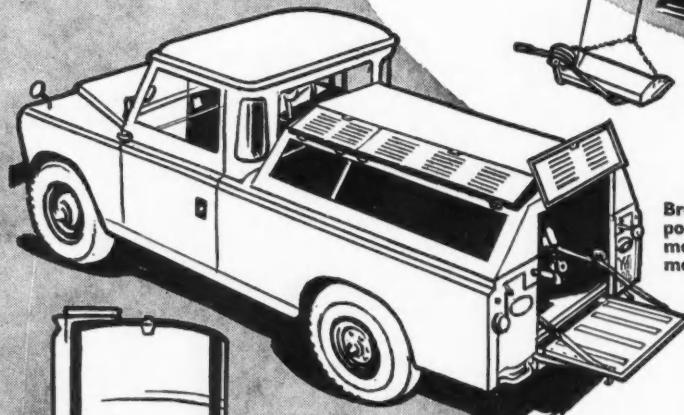
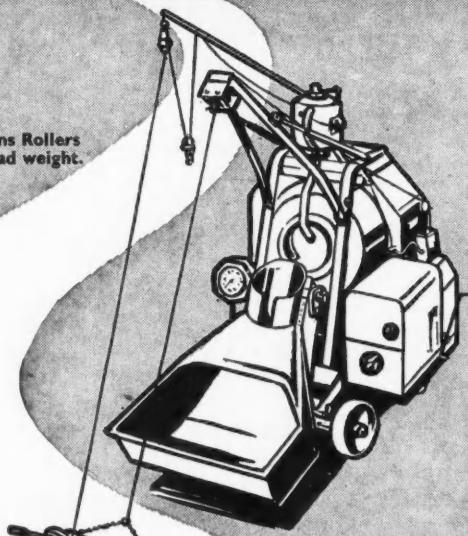
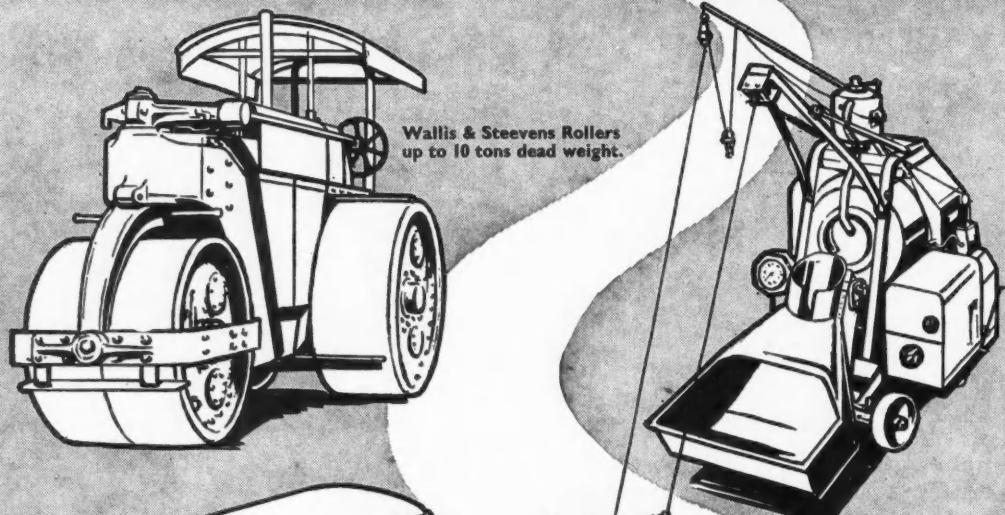


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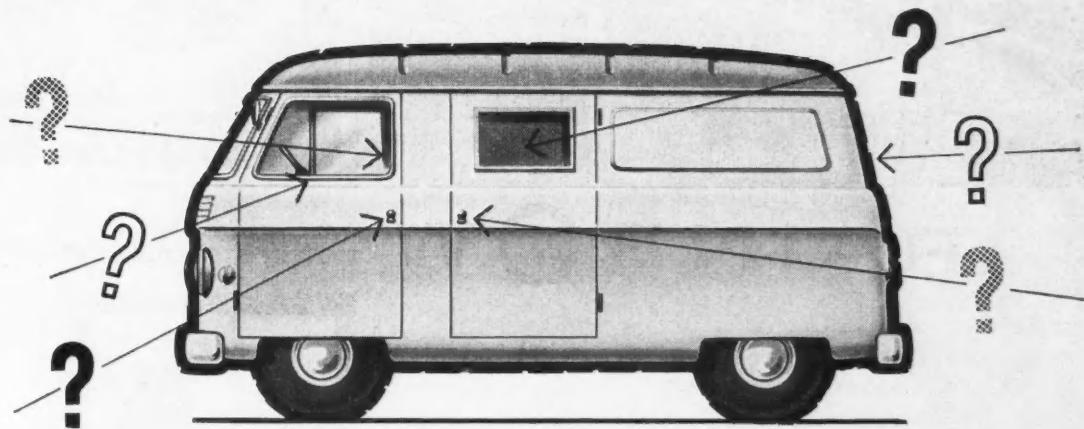
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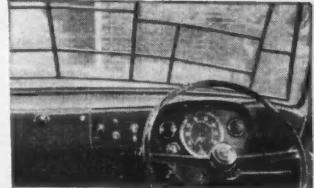
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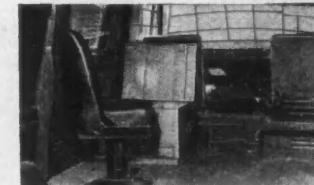
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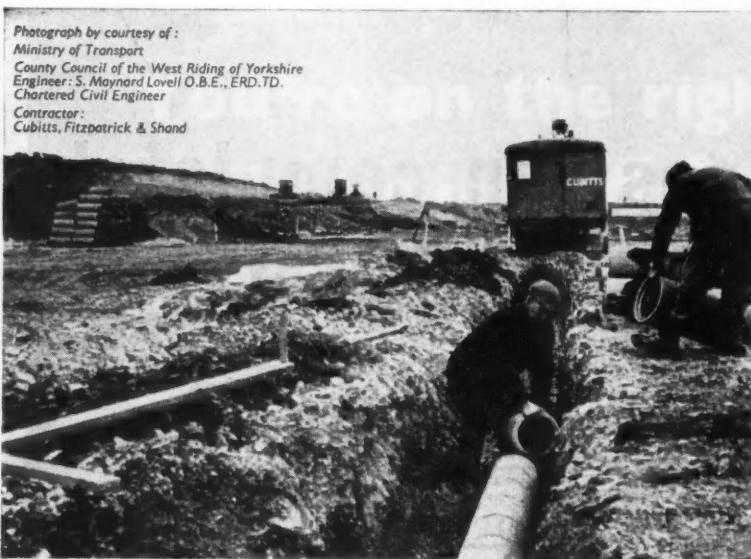
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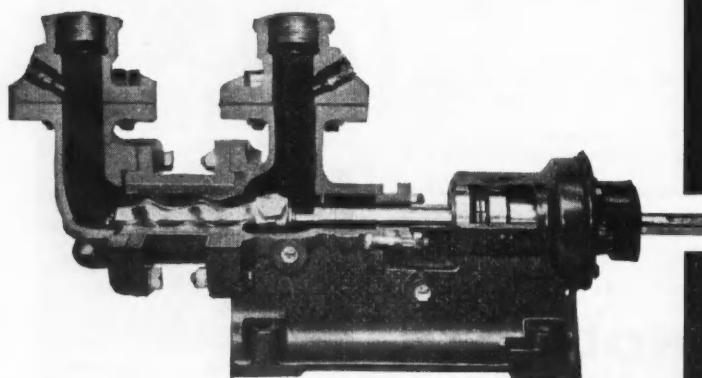
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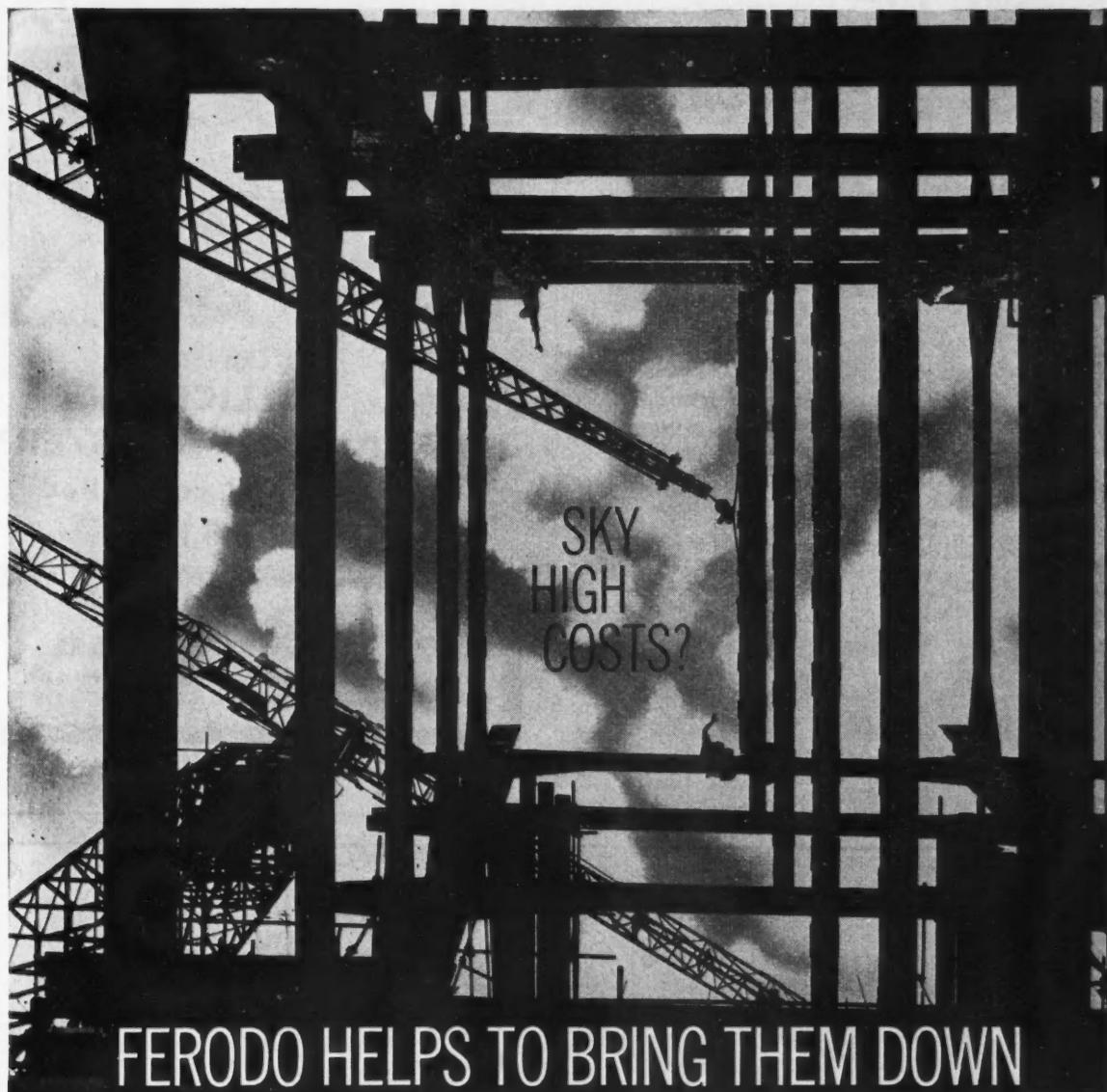
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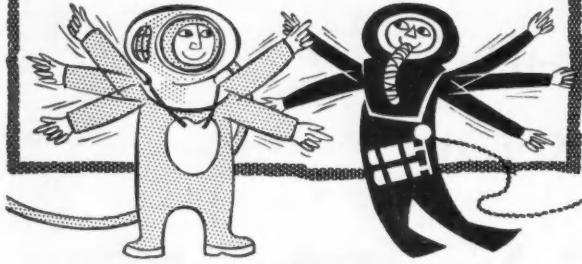
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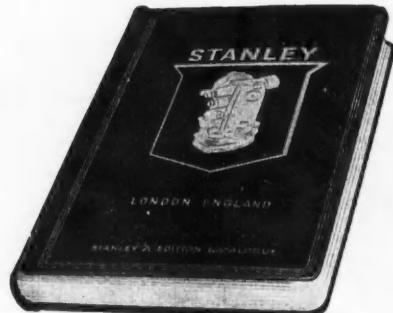
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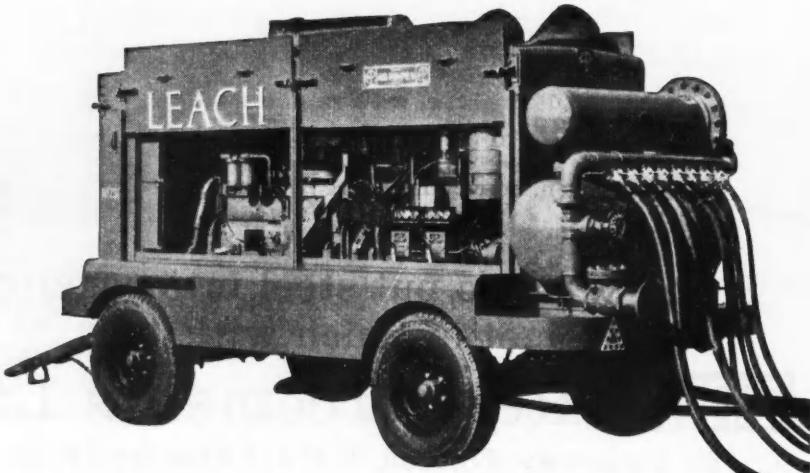
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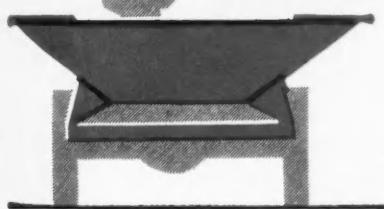
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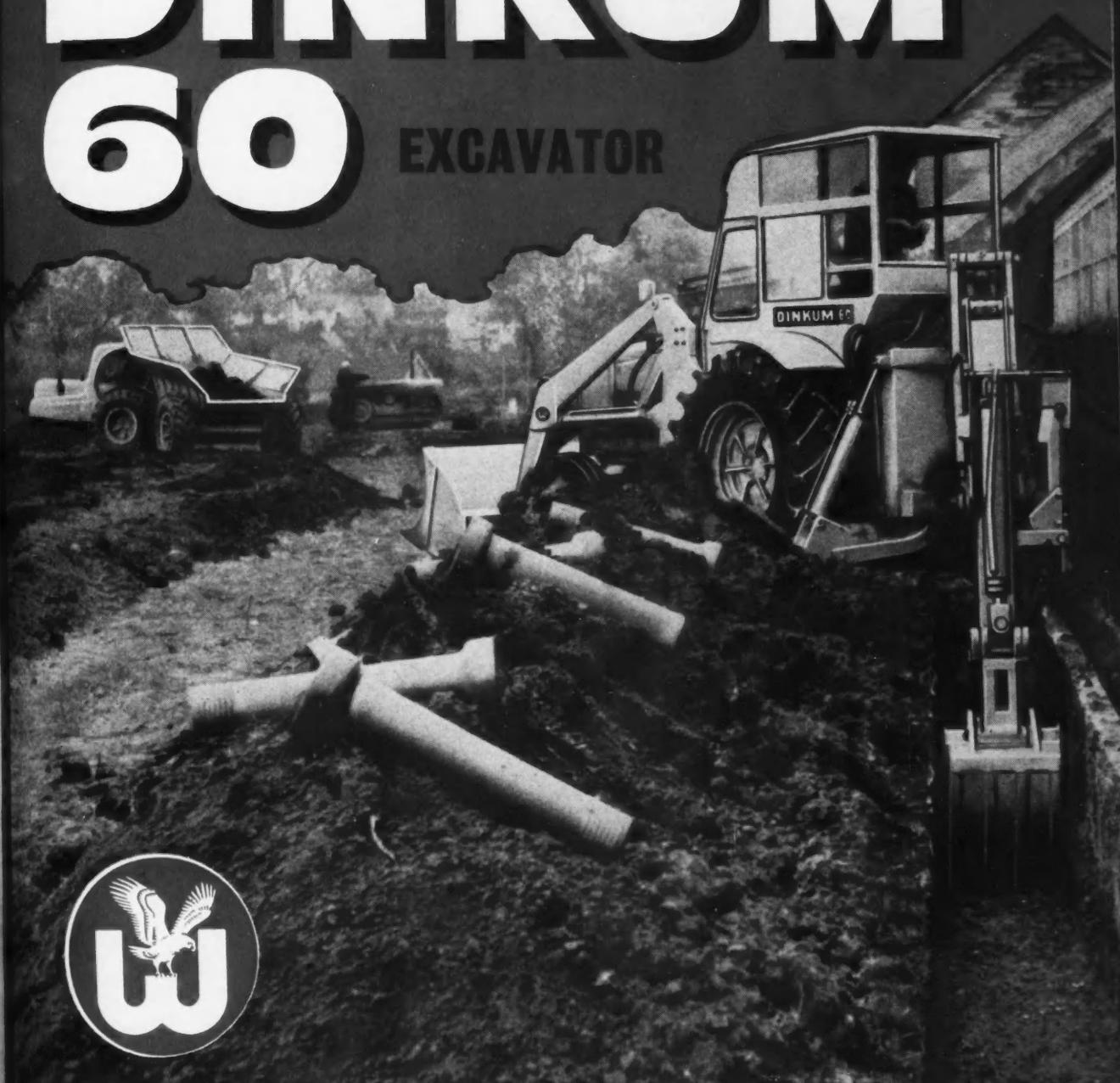
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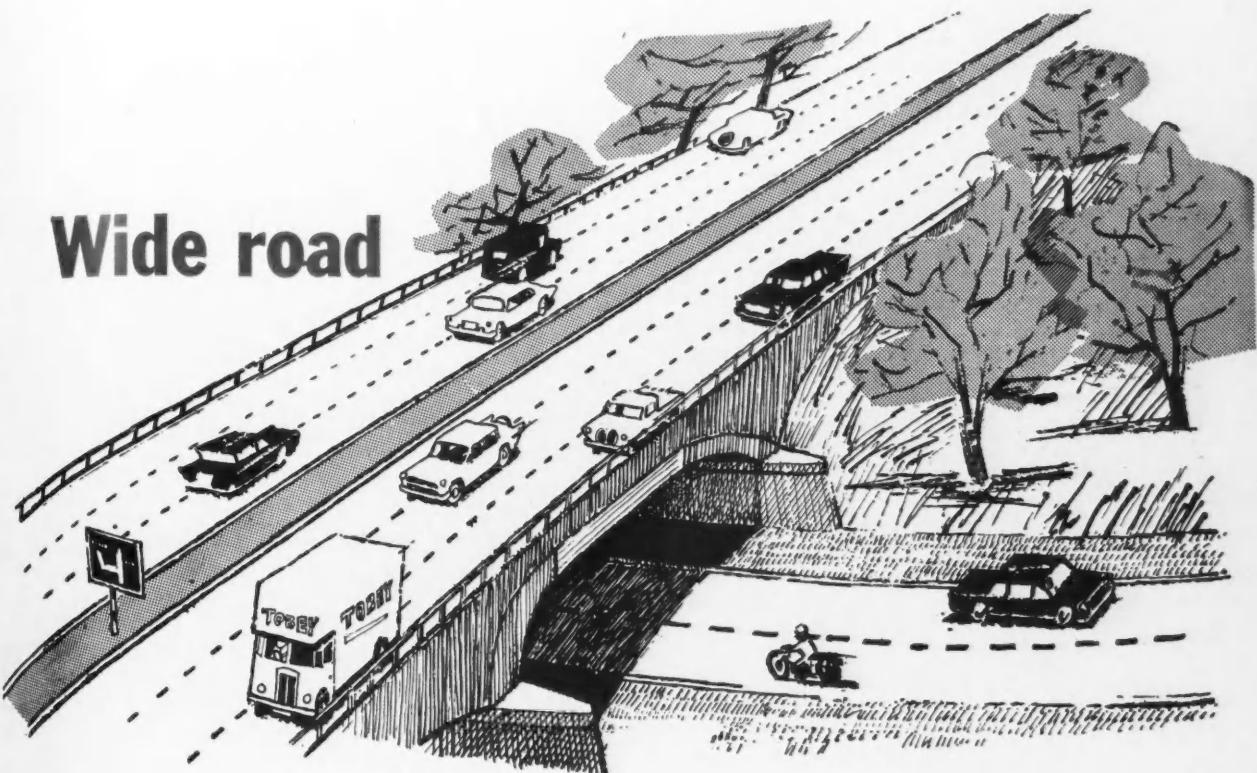
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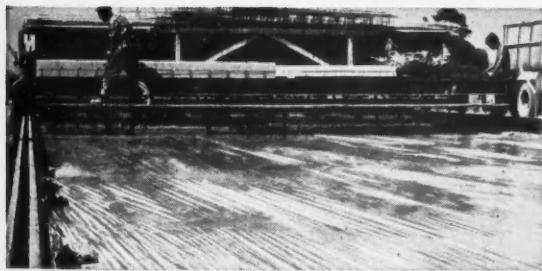
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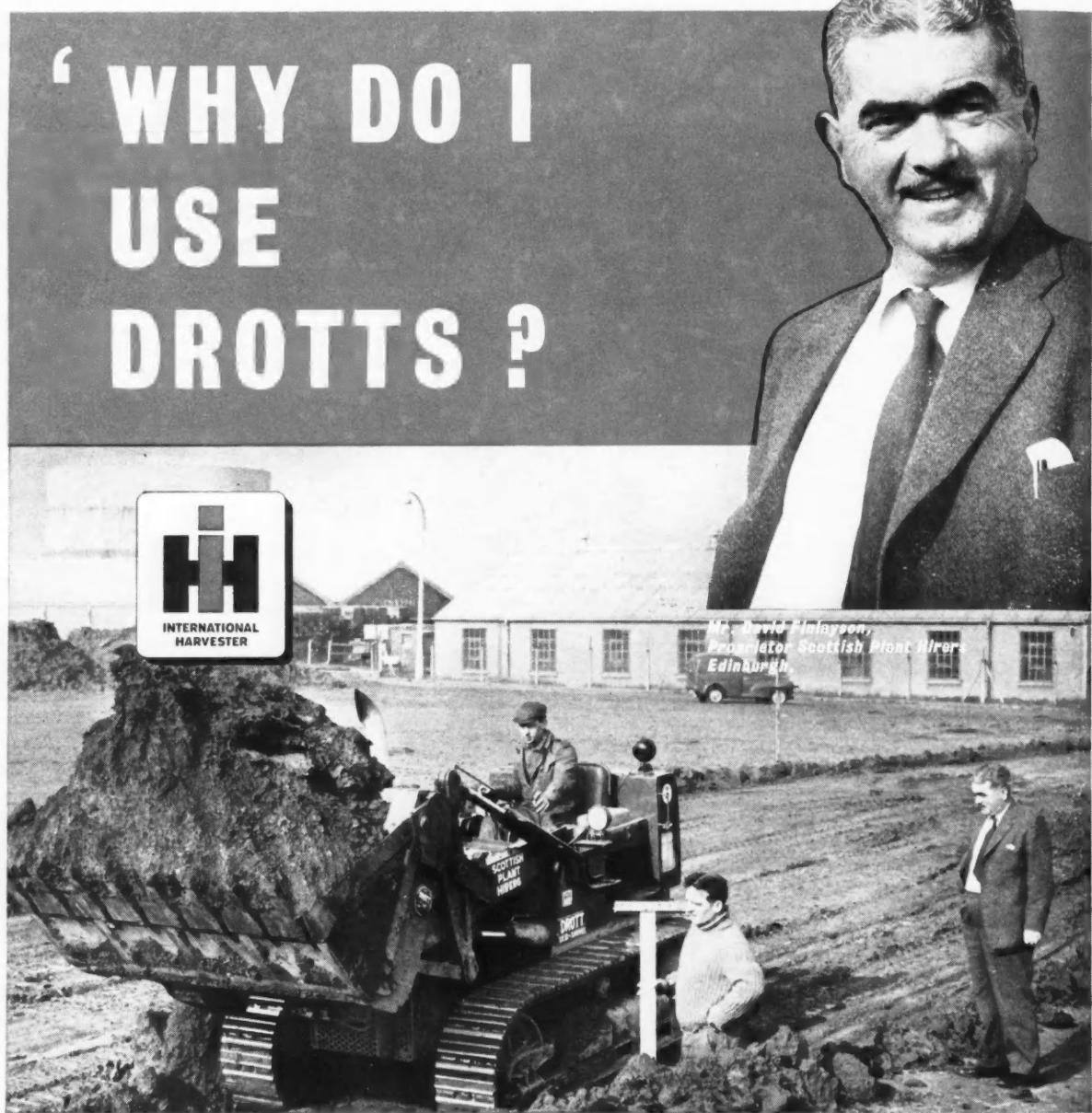
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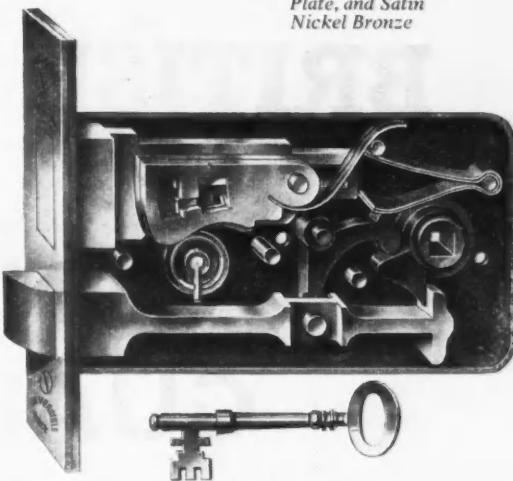
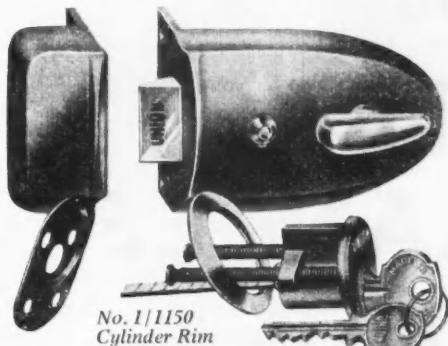
**ANCIENT EGYPTIAN LOCK.** This illustration is of a copy of what was perhaps the first lock ever made. The original lock came from Egypt and is of the period 2000 B.C. These early locks were made of wood and fixed on the outside of the door. The horizontal beam is the bolt which can be moved to and fro in the body by the key when the key has correctly raised the pins which secure it. To do this the pegs on the key must be right in number, size and positions. The modern pin tumbler lock is constructed on the same principle.

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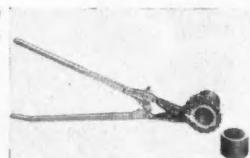
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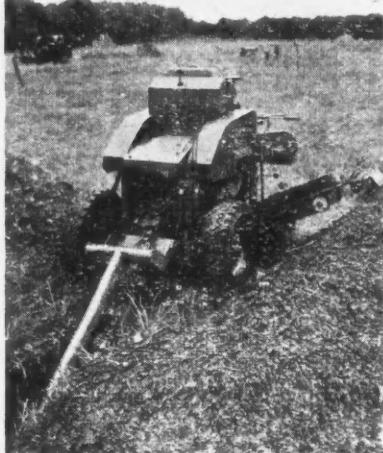
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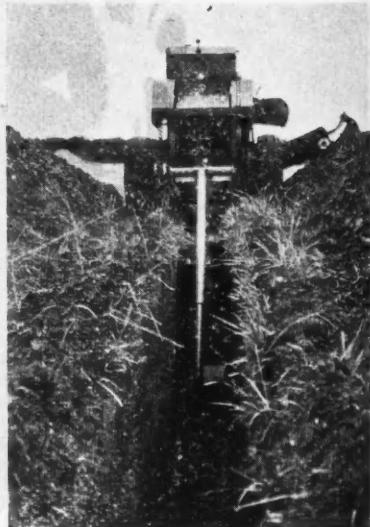
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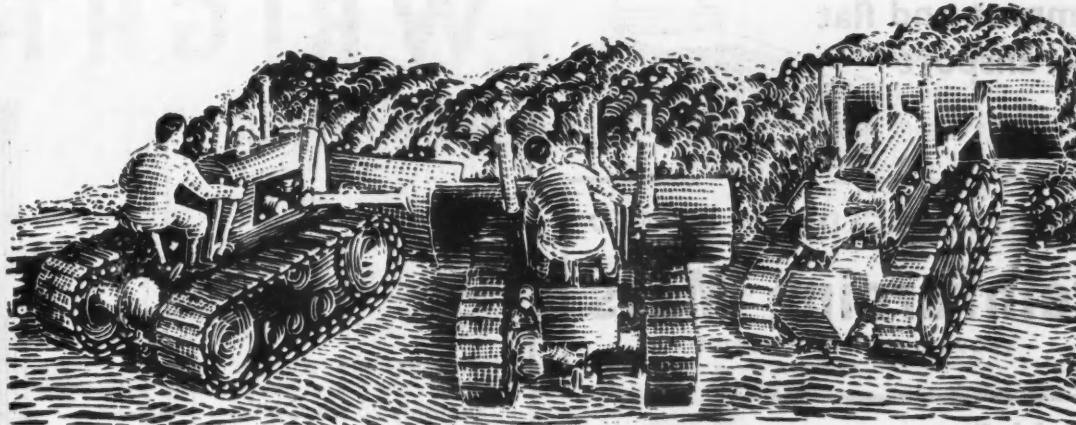


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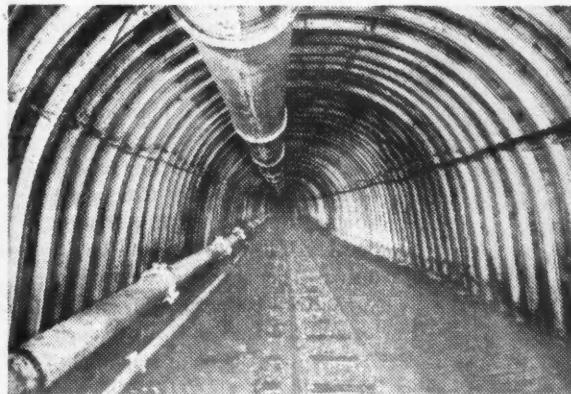
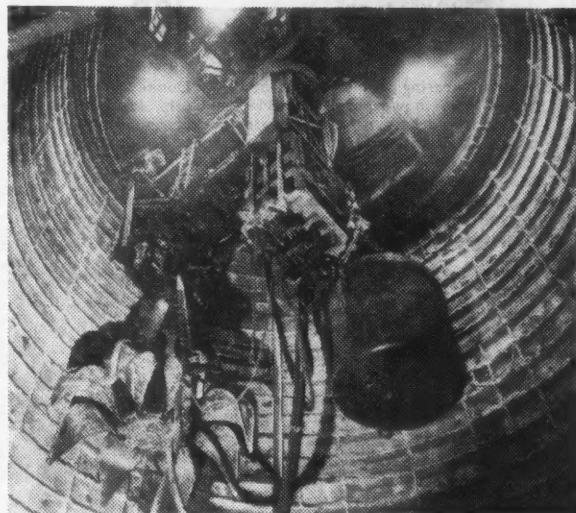


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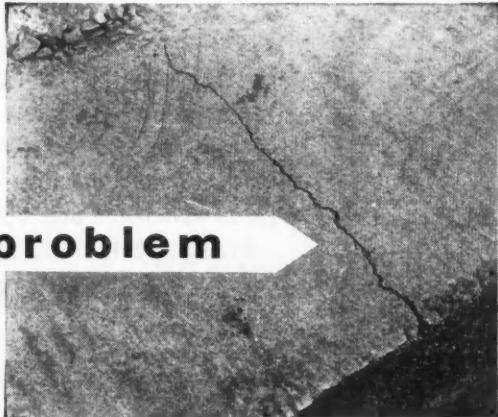
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**SALOP SAND AND GRAVEL SUPPLY CO., LTD.**, Admaston, Wellington. (Tel.: 961), Salop.

## BUCKINGHAMSHIRE

**ASPHALTE CARPETS, LTD.**, 38 Buckingham Palace Road, London, S.W.1. (Tel.: Tate Gallery 4857 or Gerrards Cross 2049.) Manufacturers of all grades of gravel, flint, marl, sand, gravel, asphalt and cold asphalt, at Gerrards Cross.  
**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)  
**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester. (Tel.: Bicester 20 and 37.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.  
**COFF, HARRY A., LTD.**, Buckhurst Hill, Cheshunt, Ascot, Berks. (Tel.: 1026/7.) (See Berkshire.)  
**DANGERFIELD, F. J., & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)  
**DRINKWATER, W. W. (WILLESDEN), LTD.**, Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.)  
**GRUNDON, S. (EWELME), LTD.**, Ewelme, Oxon. (Tel.: Ewelme 20 and 37.) All grades washed aggregates, path hoggin, broken stone, building sand, hardcore, pitching and broken stone, Cotswood building and walling stone.  
**HALL AND CO., LTD.**, Brentford, Middlesex. (Tel.: Isleworth 4455/1) and Coronation Road, High Wycombe. (Tel.: 4360/1) and at Gerrards Cross. Pits at Wraysbury (Middx.), and Iver (Bucks.).  
**HARTIGAN, G. F. X., LTD.**, High Street, Newport Pagnell. (Tel.: 226.) Graded sand, single-sized gravel aggregates to B.S.A. Pits at Newport Pagnell and Broughton, adjoining M.1 flyover.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**JAMES AND CO., LTD.**, 2C Buckingham Avenue, St. Ives. Sand aggregates, hardcore, ash, bulding sand and bulk excavation. (Tel.: Slough 20361/2/3.)

**LONDON BALLAST CO., LTD.**, (Tel.: Paddington 5064/2, 155A Porchester Terrace, North, Paddington, W.2.)

**MARLOW SAND AND GRAVEL CO., LTD.**, Westhorpe Pit, Little Marlow, Bucks. (Tel.: Marlow 379.)

**QUART MACEY, LTD.**, Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)

## CAMBRIDGESHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)  
**DANGERFIELD, F. J., & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

**DICKERSON AND CONTRACTORS LTD.**, Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) All grades washed sand and gravel, reject stone, hoggin, clinker, crushed granite, crushed and graded concrete hardcore, brick rubble, ready-mixed concrete (all grades).

## CAMBRIDGESHIRE

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**MAP ARROW (ROS) LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)  
**HERRISAND AGGREGATES, LTD.**, Northampton Rd. Quarries, Rushden (2354/5). (See Northants.)  
**GRAVEL PRODUCTS (HUNTS), LTD.**, Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts; and Blunham, Bedfordshire.  
**HARTIGAN, G. F. X., LTD.**, (See Buckinghamshire.)  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4/5.) (See Huntingdonshire for details.)  
**WEBB, G., CAMBRIDGE**, 35 Magrath Ave., Cambridge. (Tel.: Cambridge 59965, 53965, 50353 (night).) Supplier, at keenest rates, of "Finest Quality Only" all grades washed sand and gravel, reject stone, hoggin, clinker, crushed granite, rubble, pitching, hardcore and granite chippings. All to B.S. Specifications. Delivered to any site in East Anglia.

## CARDIGANSHIRE

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**SALOP SAND AND GRAVEL SUPPLY CO., LTD.**, Admaston, Wellington. (Tel.: 961), Salop.

## CARMARTHENSHIRE

**JOHN WILLIAMS AND CO. (CRWBIN QUARRIES), LTD.**, ROCK PRODUCTS (KIDWELLY), LTD., both at 4 Queen Street, Carmarthen. (Tel.: Carmarthen 7811, 7637, 7031.) All grades aggregate, Tarmacadam, Lime. Road surfacing by specialists Barber-Greene and rollers available.

## CHESHIRE

**BUCKTON QUARRY**, broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.  
**CASTLETON SAND AND GRAVEL QUARRIES, LTD.**, Pennant End Quarry, Whaley Bridge. (Tel.: Whaley Bridge 1000.) All grades aggregate, sand and gravel.  
**CAWOOD, WHARTON AND CO., LTD.**, Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-y-lal 27.) Crushed limestone and tarmacadam, all grades.

**CHESHIRE GRANITE, LTD.**, WALES TARRED ACACIUM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-y-lal 43.) Hard, broken limestone, dry and coated, to B.S.S. Inquiries to registered office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8809.)

**CROXON GRAVEL, LTD.**, Cheddle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

**HILTON GRAVEL, LTD.**, Rice Street, Liverpool Road, Ashton-under-Lyne. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheddle, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

**HULLAND GRAVEL CO., LTD.**, Cheddle, Stoke-on-Trent. (Tel.: Cheddle 2323/4, 2119 and 2195.) Manchester Office: 469, Wilbraham Road, Chorlton, Manchester. (Tel.: Chorlton 2274/5.)

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite aggregate from our Collingwood Dock (Liverpool) quarry. Any quantity per day; immediate delivery ex stock.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

**TRENT HAM GRAVEL CO., LTD.**, Lordsey Quarries, Wirksworth, Derbyshire. (Tel.: 2000.) Pipe aggregate (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

**WARDON LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) (For details, see Staffs.)

**WILLIAMS PITS, LTD.**, Bishop Street Sand Quarry, Turncroft Lane, Stockport. (Tel.: Stockport 7096.) Building sand and concrete sand. Bulk sand and gravel filling a speciality.

## CORNWALL

**PENTWEAN DOCK AND CONCRETE CO., LTD.**, Pentewan Works, near St. Austell. (Tel.: Mevagissey 3335/6.) Gwthian Works, near Hayle. Pure silica gravel and grit, concreting building, plastering and asphaltic sands, elvan and granite aggregates, all sizes.

**CUMBERLAND**

**BROOMBY'S, LTD.**, Sandhole, Milnthorpe (Tel.: 3251/2). Westmorland. (See Westmorland.)

**ESK MANUFACTURING CO., LTD.**, Calisli Brickworks, Brisco, Cumberland. (Tel.: Carlisle 2-4941.) Sand lime bricks (common and coloured facings). Ex Brisco. Concreting aggregates ex Longtown Works (Tel.: 365.)

**DENBIGHSHIRE**

**SALOP SAND AND GRAVEL SUPPLY CO., LTD.**, Admaston, Wellington. (Tel.: 961), Salop.

## DERBYSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S. all sizes: coated limestone to B.S. 802 and 1621 and wet-mix: large output; reliable deliveries.

**HILTON GRAVEL, LTD.**, Hilton, Derby. (Tel.: Etwall 422.) Also at Mercia, (Tel.: Braintree 316.) And at Willington. (Tel.: Roston 3215.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HULLAND GRAVEL CO., LTD.**, Cheddle, Stoke-on-Trent. (Tel.: Cheddle 2323/4, 2119 and 2195.) Manchester Office: 464, Wilbraham Road, Chorlton, Manchester. (Tel.: Chorlton 2274/5.)

**KEVIN LIME CO., LTD.**, Oakamoor, Staffs. (Tel.: Oakamoor 385 and 386.) Clean graded dry limestone, all sizes B.S. sizes. Output 1,000 tons per day.

**SALSBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) Limestone and granite, dry or coated gravel and sand, kerbs, slabs, blocks, posts, reconstructed and natural stone; lime and ground limestone, lightweight aggregate, ash, red shale.

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) (For details, see Staffs.)

## DORSET

**BULL BROS., S. and L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

**DANGERFIELD, J. & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

**DORSET LIMESTONES, LTD.**, Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone, lime, sand, gravel, ballast, gravels.

Portland stone, aggregates and Portland stone, aggregates for reconstructed stone. By road and sea.

**HALL AND CO., LTD.**, 8 Commercial Road, Parkstone. (Tel.: 5379.)

**MORRIS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

## ESSEX

**ALRESDROF SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/491.) Pits at: Alresford Creek, Brightlingsea, Stoke-by-Nayland, Burnham-on-Crouch, Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.

**BAKER, F. AND E., LTD.**, 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 2031/2.) Pits at Great Tottern, Heybridge, West Tilbury. All grades of washed material supplied and delivered; also hardcore ashes and bricks.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. Tel.: Coalville 1226/7/8; or London: V/Giant 7530.) (For details, see Leics.)

**BUCBRICKS CONTRACTS, LTD.**, Sand and Ballast Pits, Martells, Ardleigh, Colchester. (Tel.: Ardleigh 310.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand and sand aggregate to buyers' requirements.

**DANGERFIELD, J. & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.)

For all road aggregates, kerbs, sets. (See London.)

**FERNS PITS, LTD.**, The Limes Garage, Fencepiece Road, Barking, Essex. (Tel.: Hainault 5271/2-3001/2.) At: Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sand supplied and delivered, also hardcore.

**HALL AND CO., LTD.**, Manor Road, Romford. (Tel.: Romford 4232/1.) Pits at Upminster, Boreham and Limford, near Grays. Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HUNNABURGH, F. LTD.**, 20A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.)

For all road aggregates, kerbs, sets. (See London.)

**LEIGH BUILDING SUPPLY CO., LTD.**, Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

**PETERS AND BARHAM, LTD.**, 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes: Sand Pits at Asheldham, Chipping, St. James, Dagenham, Great Waltham, North Ockendon, Romford, West Thurrock, Romford and Thorpe-le-Soken.

**PINCH, L. A. AND A., LTD.**, Upper Rainham Road, Rainham, Kent. (Tel.: 4912/3/4.) Haulage, all aggregates and excavation.

**READ, P. T., LTD.**, Fairlop Airfield, Forest Road, Ilford. (Tel.: Hainault 6111/2/3.) High-grade sand, ballast and shingles supplied and delivered; also ready-mixed concrete.

**ST. ALBANS SAND AND GRAVEL CO., LTD.**, London Colney, St. Albans, Herts. (Tel.: Bowmansgreen 2271.) Pits at Madgehead Road, Nazel: Station Road, Waltham Abbey.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Halesfield near Halesfield.) Pits at St. Ives and Gosfield.

**STANWAY CONTRACTS, LTD.**, Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham White. Gravel aggregates supplied or delivered.

**WIVENHOE SAND, STONE AND GRAVEL CO., LTD.**, Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

## GLoucestershire

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 3014/5.) See details under Herefordshire.

**COKE, T. F. (CHEDDLE HAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 471/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, fence posts, etc.

**CROMWELL QUARRIES, LTD.**, Cromwell, Wotton-under-Edge, Glos. (Tel.: Fairford 3461/7.) Concrete aggregates, pre-graded, in large quantities.

**GRIFFITHS, A., AND SONS.**, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types of aggregate supplied.

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale, Bristol, 3. (Tel.: 6300.) Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NORTH WILTS. QUARRYING CO., LTD.**, Noble Street, Sherston, Wiltshire. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3159.) "Doura" Facing, Engineering and Common Bricks, in terra-cotta, red and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

**TAYMAC, LTD.**, Wootton Bassett, near Swindon, Wiltshire. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.



# CONTRACTORS' GUIDE TO AGGREGATES

## MIDDLESEX

**TWICKENHAM GRAVEL CO., LTD.**, Feltham Hill Road, Hanworth (Tel.: Feltham 2688).  
**REED, F. LTD.**, Greenford, Middlesex, Kingsland, E.4. (Tel.: Shoreham 9128/9.) All cands, ballast and shingles supplied and delivered; also ready-mixed concrete. Pits: Edmonton Gravel Pit, Montagu Road, N.9 (Tel.: Shoreham 9128/9), and Fairlop, Alfreton, Forest Road, Ilford (Tel.: Hanwell 2891/2).  
**STAN MACEY, LTD.**, Gordon Rd., High Wycombe. (Tel.: High Wycombe 2891/2.)

## MID-WALES

**BENGRY AND SONS LTD.**, Longmoor, Kingsland, Llanidloes, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)  
**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kington 421.) (See Herefordshire.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel.: 961). Salop.  
**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## MONMOUTHSHIRE

**MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD.**, Head Office: 18 Chepstow Road, Newport, Mon. (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metal, pitching stone, tarmacadam and bituminous macadam in dolomite and blue pennant stone. Quarries throughout the county.  
**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197). "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)  
**WHITECLIFFE QUARRIES AND BRICKWORKS, LTD.**, Coleford, Glos. (Tel.: 3158/9). (See Gloucestershire.)

## MONTGOMERYSHIRE

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel.: 961). Salop.

## NORFOLK

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)  
**JOHNSON, P. C. LTD.**, Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel roadstone, washed sharp and fine sands.  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Cambs. (Tel.: St. Ives 2441/2/3/4) facing, tarmacadam and sand.  
**SNETTERTON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Snetterton. Concrete aggregates, building sand.  
**THORPE GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 3324/4.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

## NORTHAMPTONSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)  
**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.  
**GRAYBROOK, E. W. LTD.**, Newton Road, Higham 3345. All grades of washed and graded aggregates to B.S. building sand, hardcore.  
**DOW-MAC (PRODUCTS), LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)  
**DUSTON STONE QUARRIES, LTD.**, New Duxton, Northampton. (Tel.: Brixworth 278 and 298; Duxton 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggins. Immediate delivery throughout Northamptonshire.  
**FENDRIDGE AGgregates LTD.**, Northampton Road Quarries, Radnor, Northants. (Tel.: Radnor 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Delivers throughout Northamptonshire and adjoining counties.

**GIBSONS, F. B., AND SONS, LTD.**, Welsh House, Peterborough. (Tel.: Peterborough 2091.) Market Deeping 3321/2383. (See Lincolnshire for details.)  
**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**KETTON STONE CO.** (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.  
**MACKNESS, A. J. LTD.**, Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Mixed sand, paving stone, concrete aggregate deliveries.  
**NEINE BARGE AND LIGHTER CO., LTD.**, Market Chambers, Peterborough (Tel.: 5534/5) and Ship End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5). Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.  
**NEWARK (TENTERFORD) SAND AND GRAVEL CO., LTD.**, 12 Tentercroft Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.  
**PETERBOROUGH QUARRIES, LTD.**, Sandymead, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone, sand and gravel at Yarwell, Wansford. All grades gravel and sand at Maxey.  
**POLLARD, C., AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)  
**STORTON, F. E. LTD.**, Weedon Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

## NORTH WALES

**CAWOOD, WHARTON AND CO., LTD.**, Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon 27/27.) Crushed limestone and tarred macadam, all grades.  
**CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD.**, Llanarmon, near Mold. (Tel.: Llanarmon 27/27.) Hard, broken limestone; dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 6094.)

**ENSON BROS.**, Livlyn Isaf Quarry, Cynwngfawr, Caernarfon. (Tel.: Cynwngfawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarfon. (Tel.: Caernarfon 2535/6.) Crushed granite ex our quarry, Pengwern and Gwydr Quarries, Ltd., Trefford, Llanrwst, Denbighshire. (Llanrwst 18.)

**GWALCHMACH GRANITE QUARRY**, Llanrwst. Proprietors: The North Wales Construction Co., Ltd. (Tel.: Gwalmach 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc.

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, at Penmaenmawr (Tel.: 2525/6) and at Trevor (Tel.: Cynwngfawr 223). Caernarfonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated granite also available.

**RUTHIN AND DENBIGH TARMACADAM CO., LTD.**, (a member of the Lunt, Comley and Pitt Group), Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonite, lime, tarmacadam, etc. Also inquiries to Lunt Bros., Ltd., Gazette Buildings, 16 Corporation Street, Birmingham. (Tel.: Central 7408), and Lunt Bros., Ltd., Stourbridge (Tel.: S201—8 lines).

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## NOTTINGHAMSHIRE

**AIZLEWOOD, DOUGLAS E.**, Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone; all grades of washed gravel and sand.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**GLEN QUARRIES, LTD.**, Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand, washed and coated gravel; could be collected ex quarry or delivered.

**GUNTHORPE GRAVELS (1958) LTD.**, (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) At Hoveringham, Holme Pierrepont, Colwick, Bleadon, and Newark. Other quarries throughout the country—deliveries in 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Combined plant capacity 20,000 tons per day.

**NEWARK GRAVEL AND CONCRETE CO., LTD.**, Grove St., New Baderston, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.

**NORTH NOTTS. GRAVEL CO., LTD.**, Bellmoor, Retford, Notts. (See Yorkshire.)

**SALSBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

## OXFORDSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**BENGRY AND SONS LTD.**, Longmoor, Kingsland, Llanidloes, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**BICESTER STONE CO., LTD.**, Stratton Audley 391/2. Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

**CURTIS, J. AND SONS LTD.**, Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed gravel and sand to B.S.S. Plant at Radley, near Abingdon. (Tel.: Abingdon 441.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggins. Immediate delivery throughout Northamptonshire.

**FENDRIDGE AGgregates LTD.**, Northampton Road Quarries, Radnor, Northants. (Tel.: Radnor 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Delivers throughout Northamptonshire and adjoining counties.

**GIBSONS, F. B., AND SONS, LTD.**, Welsh House, Peterborough. (Tel.: Peterborough 2091.) Market Deeping 3321/2383. (See Lincolnshire for details.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**SNETTERTON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Roadstone, hardcore, broken stone, building sand, walling stone.

**GRUNDON, S. (EWELME), LTD.**, Ewelme, Oxon. (Tel.: Ewelme 26 and 37.) London Office (Tel.: Uxbridge 36511/2/3). All grades washed aggregates, path hoggins, broken stone, building sand.

**HALL AND CO., LTD.**, Cardiff Road, Reading. (Tel.: 50458.)

**HAINES, H. (WITNEY), LTD.**, Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and wailing stone.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KEYSTONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay.**

**MACKNESS, A. J. LTD.**, Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Mixed sand, paving stone, concrete aggregate deliveries.

**NEINE BARGE AND LIGHTER CO., LTD.**, Market Chambers, Peterborough (Tel.: 5534/5) and Ship End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5). Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

**NEWARK (TENTERFORD) SAND AND GRAVEL CO., LTD.**, 12 Tentercroft Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

**PETERBOROUGH QUARRIES, LTD.**, Sandymead, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone, sand and gravel at Yarwell, Wansford. All grades gravel and sand at Maxey.

**POLLARD, C., AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kington 421.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel.: 961). Salop.

## RUTLAND

**GIBSONS, F. B., AND SONS, LTD.**, Welsh House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KETTON STONE CO.** (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

**PETERBOROUGH QUARRIES, LTD.**, Sandymead, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone, sand and gravel at Yarwell, Wansford. All grades gravel and sand at Maxey.

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**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kington 421.) (See Herefordshire.)

## SHROPSHIRE

**SALLIDON QUARRIES**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S. all sizes; coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Llanidloes, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**CLEE HILL TRANSPORT AND ROLLING CO., LTD.**, Ludlow, Salop. (Tel.: Cleehillstone 284.) Granite stone, tarmac, chippings, filter media, setts, limestone, crushed and walling stone, gravel, sand, hardcore and asphalt.

**DORRINGTON STONE AND GRAVEL QUARRIES**, near Shrewsbury. (Tel.: Dorrington 276.) Supplies of ready mixed concrete, building sand, washed sand, washed and crushed gravel.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Leics.)

**OLD RADNOR TRADING CO., LTD.**, Kington. (Tel.: 421.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel.: 961). Salop.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

**TRENTHAM GRAVEL CO., LTD.**, Lonsdale Quarries, Willoughbybridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

## SOMERSET

**ASHAM QUARRY CO., LTD.**, Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarred and luminous macadam to B.S. 802. Quarry and delivery.

**DANGERFIELD, F. J., & CO., LTD.**, 216A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravels, aggregates, concreting, plastering and building sand.

**NORTH STONE QUARRIES CO.**, Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)

**WAINWRIGHT, JOHN, AND CO., LTD.**, Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

## SOUTH SCOTLAND

**ESK MANUFACTURING CO., LTD.**, Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

## SOUTH WALES

**AMALGAMATED AGGREGATES, LTD.**, 97 Cowbridge Road East, Cardiff. (Tel.: Cardiff 25249.) All sizes crushed and graded aggregate, dry or washed. High calcium or dolomitic limestone, also all grades coated stone. Quarries near Newport, Cardiff, Bridgend, Pontypridd.

**HALL AND CO., LTD.**, 34 High Street, Narberth.

**PENMENNAWR AND WELSH GRANITE CO., LTD.**, 19 Quay Street, Cardiff. (Tel.: 20646/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregates from Ewenny Quarry, Bridgend. (Tel.: 20646/7.) Coated stone also available.

**SETHERS AND SONS LTD.**, West Dock, Cardiff. Producers of coarse and fine aggregate, dredged and graded to British Standards. Branches: Newport and Swansea. (Also Gloucester and Hereford.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197). "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**SALOP SAND AND GRAVEL CO., LTD.**, Head Office: P.O. Box 8, Beaufort Buildings, Swanses. (Tel.: Swanses 53071.) Sand and gravel merchants, builders' merchants, Pennant Quarry owners, slate, hardcore, ashes, flint, gravel, clinker, filter media. Deposits: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swanses, Llanelli.

## STAFFORDSHIRE

**BALLIDON QUARRIES**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**CROXDEN GRAVEL LTD.**, Cheadle, Stoke-on-Trent. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity: 2,000 tons per day.

**DUNNING AND SON, LTD.**, Wood End Gravel Pits, Hedsford. (Tel.: Hedsford 302/325/251.) All grades of washed sand and gravel supplied to B.S.S.

**HILTON GRAVEL LTD.**, Cheadle, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent. (Tel.: Longton 32198.) and Stretton, Burton-on-Trent. (Tel.: Burton 3061.)

**HULLAND GRAVEL CO., LTD.**, Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

# CONTRACTORS' GUIDE TO AGGREGATES

## STAFFORDSHIRE

**KEVIN LIME CO., LTD.**, Oakamoor, Staffs. (Tel.: Oakamoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output, 1,000 tons per day.  
**RUGELEY GRAVEL CO., LTD.**, Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel. 272/273.) (For details, see Derbyshire.)

**SHIRE OAK GRAVELS, LTD.**, Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinker, ashlar, and paving.

**TRENTHAM GRAVEL CO., LTD.**, Lordship Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity, 2,000 tons per day.

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) Graded limestone for all purposes. Ground limestone.

**WINDMILL SAND AND GRAVEL QUARRIES, LTD.**, Cannock Road, Wolverhampton. (Tel. 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

## SUFFOLK

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Suffolk area pits at Bures and Stoke-by-Nayland. All grades washed aggregate sand; also hoggin.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGilant 2530.) (For details, see Leics.)

**DICKERSON, M. (CONTRACTORS), LTD.**, Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) (See Camb.)

**HALL AND CO., LTD.**, West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kergrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

**MACLAREN BROS. (KENNETT), LTD.**, Station Road, Kennett, Camb. (Kentford 333/4.) (See Camb.)

**#T. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4, Coney Weston 12 and Halstead 2323.) Pits at St. Ives, Knettishall, near Thetford, and Gosfield, Essex. Hainsworth.

**THORPE GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Norfolk.)

**WEBB, G. CAMBRIDGE**, 35 Magrath Av., Cambridge. (Tel.: 59966, 53966, 50553 (night).) (See Camb.)

## SURREY

**COFF, HARRY A., LTD.**, Buckhurst Hill, Cheshunt, Ascot, Berks. (Tel. 1026/7.) (See Berks.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**EASTWOODS SALES, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Longside Sand and Ballast Pit, Thorpe, nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

**HALL AND CO., LTD.**, Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Send and Redhill. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.

**HARRIS, M. P. AND CO., LTD.**, Kingston Road, Leatherhead, Surrey. (Tel.: 3497.) (See Sussex.)

**JAMES AND CO., LTD.**, 2C Buckingham Avenue, Slough. Sand, aggregates, hags, ballast, stone, sand and bulk excavation. (Tel.: Slough 20361/2/3.)

**LONDON BALLAST CO., LTD.**, (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

**MARCO (AGGREGATES), LTD.**, Pit: Norland Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.

## SURREY

**MARCO (CROYDON), LTD.**, Hampton Road, West Croydon. (Tel.: THORnton Heath 4236/7/8.) All cleaning and road aggregates.

**TWICKENHAM GRAVEL CO., LTD.**, Government Road, Ash Vale. (Tel.: 2349.)

**WELLS, A. L. AND SON, LTD.**, Builders' Merchants, Garlands Road, Leatherhead. (Tel. 3018/9.) Sand aggregates, hardcore, ashes, cement. Clinker block manufacturers.

**WINTON, W. H. R., LTD.**, Send, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggin and ashes. Clinker block manufacturers.

## SUSSEX

**AVANN, F.**, Cavendish Avenue, Eastbourne. (Tel. 4959/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc. supplied.

**HALL AND CO., LTD.**, 16 Chapel Road, Worthing. (Tel.: Worthing 7740.) Other main depots at Billingsgate, Bogger, Crowborough, Greatstone, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumbley, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portslade. Gravel aggregates, concreting, plastering and building sand, and, surecrete precision-mixed concrete.

**HARRIS, M. P. AND CO., LTD.**, West Station Goods Yard, Bexhill (Tel. 61): Cavendish Place, Eastbourne. (Tel. 38000): Dominon Road, Worthing (Tel. 8822); Whitbread Lane, Northiam. (Tel. 2211): Station Goods Yard, Haywards Heath (Tel. 1753); Station Goods Yard, Hailsham. (Tel. 3366): The Hoe, Chichester. (Tel. 5181.) All grades aggregates, hardcore, clinker, ashes, etc.

**WRIGHT, C. AND SONS, (BTION), LTD.**, 19 Bristol Gardens, Brighton, 7. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

## WARWICKSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S. all sizes, coated limestone to B.S.S. 802 and 1621 and wet-mix, large output, reliable deliveries.

**BENRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**CLEW HILL TRANSPORT AND ROLLING CO., LTD.**, Luton, Beds. (Tel.: Cleethorpes 284.) (See Shrop.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)

**KEVIN LIME CO., LTD.**, Oakamoor, Staffs. (Tel.: Oakamoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output, 1,000 tons per day.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Kington. (Tel. 421.) (See Herefordshire.)

**SHAKEMANTLE QUARRIES, LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**SHIRE OAK GRAVELS, LTD.**, (See Staffordshire.)

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) (For details, see Staffs.)

**WARRICKSHIRE QUARRIES, LTD.**, Bedworth Road, Nuneaton. (Tel.: Coventry 67821.) Red shale, screened for roads, car parks, sports grounds, tennis courts, etc., attractive colour.

## WESTMORLAND

**BROOMBY'S, LTD.**, Sandside, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed sand, granite, sandstone, granite chippings, pitching, tarmacadam, rocky stone, etc.

**ESK MANUFACTURING CO., LTD.**, Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

## WILTSHIRE

**BULL BROS. S. AND L. LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

**COTTON T. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: 718074.) (See Glos.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)

**WELBECK SAND AND GRAVEL CO., LTD.**, Parkhill, Wakefield. (Tel.: Wakefield 4454.) Washed sand and gravel.

**WEST RIDING GRAVEL CO., LTD.**, Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 26361.) Washed, crushed and natural graded sand and gravel. Supplies to specification, large sand and gravel. Daily production centre of Yorks. West Riding market. Pit: Wakefield.

**WOMERSLEY GRADER STONE, LTD.**, WOMERSLEY, (Tel.: WOMERSLEY 284.) (See Lancs.)

**WELBECK SAND AND GRAVEL CO., LTD.**, Parkhill, Wakefield. (Tel.: Wakefield 4454.) Washed sand and gravel.

**WEST RIDING GRAVEL CO., LTD.**, Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 25562.) Modern 1,000-ton daily plant produces washed grit and soft sands. All aggregates to specification. Competitive prices. W. Riding to Lancs. border. Pit: Wakefield.

**WOMERSLEY GRADER STONE, LTD.**, WOMERSLEY, (Tel.: WOMERSLEY 284.) (See Lancs.)

**X.L. GRANITE (INGLETON), LTD.**, Head Office: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

## WILTSHIRE

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

**NORTON HILLS QUARRYING CO., LTD.**, Noble Street, Sherston, Wilts. (Tel.: Sherston 321-3 lines.) Building and terrace, walling stone, crazy paving and stone roofing tiles.

**TAYMAC, LTD.**, Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 391-5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

## WORCESTERSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S. all sizes, coated limestone to B.S.S. 802 and 1621 and wet-mix, large output, reliable deliveries.

**BENRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**CLEW HILL TRANSPORT AND ROLLING CO., LTD.**, Luton, Beds. (Tel.: Cleethorpes 284.) (See Shrop.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)

**KEVIN LIME CO., LTD.**, Oakamoor, Staffs. (Tel.: Oakamoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output, 1,000 tons per day.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Kington. (Tel. 421.) (See Herefordshire.)

**SHAKEMANTLE QUARRIES, LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

## YORKSHIRE

**AZLEWOOD, DOUGLAS E.**, Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded sand, washed gravel.

**GLEN QUARRIES, LTD.**, Central Chambers, Welgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel could be obtained in quarry or delivered.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)

**MELSMORE (CONTRACTORS), LTD.**, Grange Lane, Starfoot, near Barnsley. (Tel.: Barnsley 3820.) Re-shale, hardcore, topsoil. Plant hire, dump trucks.

**NORTH. NOTTS. GRAVEL CO., LTD.**, Bellmoor, Retford, Notts. (Tel.: Retford 2219-3 lines.) Concrete aggregates and sands, quartzite chippings, bedding and Lound, near Retford and Worksop. Truck-mixed concrete plants at Retford and Worksop, Notts. Pit: Yester, Yester and Wath-on-Dearne, Yorks.

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

**SLATER BROS. (WHITELEY), LTD.**, Whiteley Bridge, near Goole. (Tel.: Whiteley 301 and 302.) Washed and crushed gravel. Concrete sand, building sand, crushed and graded stone, natural white stone for crazy paving, terrace walls & house building.

**STANLEY FERRY GRAVEL CO., LTD.**, Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 26361.) Washed, crushed and natural graded sand and gravel. Supplies to specification, large sand and gravel. Daily production centre of Yorks. West Riding market. Pit: Wakefield.

**WELBECK SAND AND GRAVEL CO., LTD.**, Parkhill, Wakefield. (Tel.: Wakefield 4454.) Washed sand and gravel.

**WEST RIDING GRAVEL CO., LTD.**, Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 25562.) Modern 1,000-ton daily plant produces washed grit and soft sands. All aggregates to specification. Competitive prices.

**WOMERSLEY GRADER STONE, LTD.**, WOMERSLEY, (Tel.: WOMERSLEY 284.) (See Lancs.)

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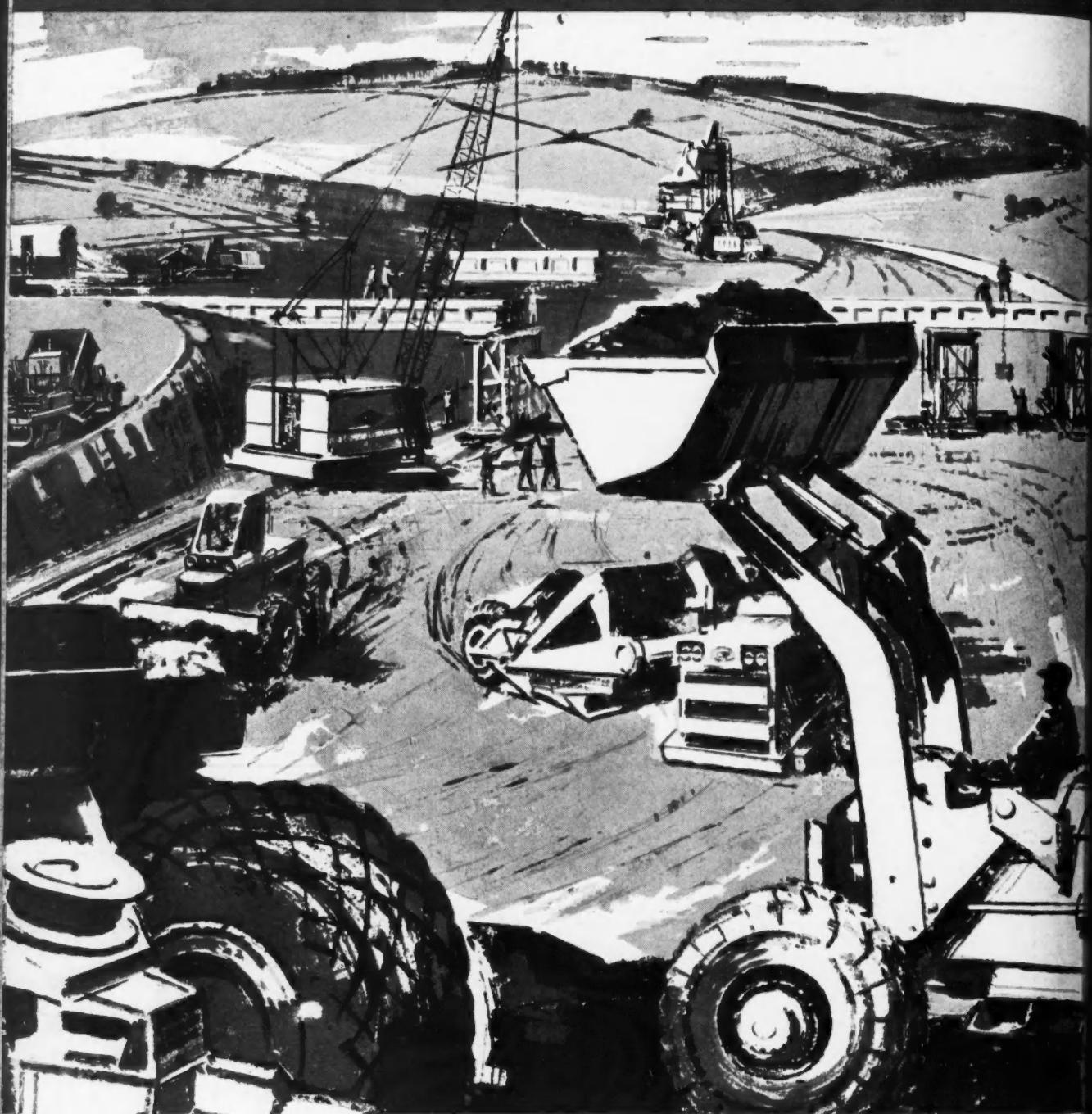
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